ENVIRONMENTAL SERVICES
SPB05-894P-Z

1. PARTIES

THIS CONTRACT, is entered into by and between the State of Montana, Department of Administration, State Procurement Bureau, (hereinafter referred to as "the State"), whose address and phone number are Room 165 Mitchell Building, 125 North Roberts, PO Box 200135, Helena MT 59620-0135, (406) 444-2575 and **River Design Group, Inc.**, (hereinafter referred to as the "Contractor"), whose nine digit Federal ID Number, address and phone number are 75-3125545, 5098 US Highway 93 S, Whitefish MT 59937, and (406) 862-4927.

THE PARTIES AGREE AS FOLLOWS:

2. PURPOSE

The purpose of this term contract is to establish a list of Environmental Service Providers in several service areas. All qualified offerors will be assembled into a multiple contractor term contract for use by state agencies and other public procurement units. The State makes no guarantee of use by any agency-authorized access to this term contract. However, through data conveyed by the Montana Department of Environmental Quality, Montana Department of Natural Resources and Conservation, and Montana Fish, Wildlife and Parks, it is anticipated that this term contract should access approximately 2.5 million dollars or more annually.

3. EFFECTIVE DATE, DURATION, AND RENEWAL

3.1 Contract Term. This contract shall take effect upon execution of all signatures, and terminate on June 30, 2008, unless terminated earlier in accordance with the terms of this contract. (Mont. Code Ann. § 18-4-313.)

3.2 Contract Renewal. This contract may, upon mutual agreement between the parties and according to the terms of the existing contract, be renewed in one-year intervals, or any interval that is advantageous to the State, for a period not to exceed a total of three additional years. This renewal is dependent upon legislative appropriations.

3.3 Addition of Analytical Laboratory Contractor. Proposals will be accepted between April 1 and May 1 of each calendar year from current firms requesting review of their qualifications to perform Analytical Laboratory Services as originally requested under RFP SPB05-894P. The state will evaluate each proposal received in the exact manner in which the original proposals for other categories were evaluated. If proposal passes the requirements as evaluated to perform Analytical Lab Services, the state will update that firms term contract to include the Analytical Lab Services category contingent on said firm being in good standing otherwise.

4. NON-EXCLUSIVE CONTRACT

The intent of this contract is to provide state agencies with an expedited means of procuring supplies and/or services. This contract is for the convenience of state agencies and is considered by the State Procurement Bureau to be a "Non-exclusive" use contract. Therefore, agencies may obtain this product/service from sources other than the contract holder(s) as long as they comply with Title 18, MCA, and their delegation agreement. The State Procurement Bureau does not guarantee any usage.

5. COOPERATIVE PURCHASING

Under Montana law, public procurement units, as defined in section 18-4-401, MCA, have the option of cooperatively purchasing with the State of Montana. Public procurement units are defined as local or state public procurement units of this or any other state, including an agency of the United States, or a tribal procurement unit. Unless the bidder/offeror objects, in writing, to the State Procurement Bureau prior to the award of this contract, the prices, terms, and conditions of this contract will be offered to these public procurement units.

6. TERM CONTRACT REPORTING

Term contract holder(s) shall furnish annual reports of term contract usage. Each report shall contain complete information on all public procurement units utilizing this term contract. Minimum information required to be included in usage reports: name of the agency or governmental entity who contacted you regarding a potential project; project title; agency contact person; if the project was not successfully negotiated, state the reason; number and title of contracts received; total dollar amounts for contracts received; the names of your company personnel involved in the project; and project status as of usage report date. The report for this term contract will be due on July 20th of each year.

Reported volumes and dollar totals may be checked by the State Procurement Bureau against State records for verification. Failure to provide timely or accurate reports is justification for cancellation of the contract and/or justification for removal from consideration for award of contracts by the State.

7. COST/PRICE ADJUSTMENTS

7.1 Cost Increase by Mutual Agreement. After the initial term of the contract, each renewal term may be subject to a cost increase by mutual agreement. Contractor must provide written, verifiable justification for any cost adjustments they request during each renewal period. Contractor shall provide its cost adjustments in both written and electronic format. Contractor must provide written, verifiable justification for any cost adjustments they request during each renewal period. Contractor shall provide its cost adjustments in both written and electronic format.

7.2 Differing Site Conditions. If, during the term of this contract, circumstances or conditions are materially different than set out in the specifications, the Contractor may be entitled to an equitable adjustment in the contract price. The Contractor shall immediately cease work and notify, in writing, the State of any such conditions necessitating an adjustment as soon as they are suspected and prior to the changed conditions affecting the performance of this contract. Any adjustment shall be agreed upon in writing by both parties to the contract.

7.3 Cost/Price Adjustment. All requests for cost/price adjustment must be submitted between April 1st and April 30th along with written justification. Requests received after April 30th will not be considered unless written approval from the SPB Contracts Officer is given to submit at a later date. In no event will cost/price adjustments be allowed beyond May 15th. All requests that are approved will be incorporated by contract amendment and made effective July 1st of the next approved renewal period.

8. SERVICES AND/OR SUPPLIES

8.1 Service Categories. Contractor agrees to provide to the State the following services:

Water Quality Monitoring – Fixed Station and Probabilistic Design. The statewide monitoring network has three components. The first component is the fixed station water quality-monitoring network. There are 38 fixed station sites located on streams throughout Montana where there are active USGS gauging stations. The USGS is currently contracted to collect all of the water chemistry samples. The State may also collect sediment samples for trace metal analyses. Remote sensing may be used to assess stream geomorphology, flood plain and watershed characteristics.

Water Quality Monitoring - Lakes and Streams. As part of the monitoring program, standards criteria and TMDL development, lakes will continue to be sampled collecting chemistry, physical, and habitat parameters. Stream sampling may include sediment and water chemistry, geomorphology, habitat, or sources of pollutants (e.g., pebble counts, channel cross-section, stream reach assessments, photo points, Rosgen Type II, etc GIS and remote sensing may be used to assess riparian habitats, and watershed physical characteristics.

Water Quality Monitoring - Reference Sites. As part of the monitoring program and standards criteria development, reference sites will continue to be identified and characterized as described above.

TMDL Targets. The TMDL program (within DEQ) will often need additional data in order to develop TMDL targets. Targets are quantitative water quality goals or "endpoints" that represent all the applicable narrative or numeric water quality standards. These targets, when achieved will represent full beneficial use support. This may require additional monitoring to determine reference condition when TMDL targets are based on narrative criteria or designated uses (water quality standards). Targets may be based on numeric water quality criteria, pollutant concentrations or loads, habitat or geomorphic measures, and/or biological criteria or populations. Targets are also used to determine the existing Water Quality Impairment Status (WQIS) of the streams on the 303(d) list. In most cases, the contractor will be required to write a report, which includes a recommendation and justification for one or more TMDL targets and also compare those targets to the existing conditions to determine WQIS. Communication with the State is crucial while deriving preliminary targets to ensure TMDL consistency across Montana.

TMDL Source Assessment/Delineation. The TMDL program (within DEQ) will often need additional data in order to link water quality impairments to their sources, or to allocate sources of pollutants. This may require data compilation, investigative monitoring and statistical analysis within a specified watershed, which can be used for source allocation, or the linkage of water quality impairments to causes and sources of impairment (e.g., sediment or land use practices). Quantitative source assessments may be conducted using field-based monitoring and/or interpretation and analysis of aerial photos, digital images, or GIS coverages depending upon impairment sources and available information. In most cases, contractors will be required to write a report that identifies what the major causes of impairment are and where the major sources of pollutants are located. DEQ will also need to have all pollution/pollutant sources quantified. The quantification of these loads will assist in both source load allocations and the total maximum daily loads. In addition, data collected during source assessments must be entered into an approved database structure or format and linkage to the National Hydrography Dataset (NHD) streams layer may be requested. The department may also request a cost/benefit analysis for implementing BMPs, which can be used for developing TMDL source allocations. Communication with the State is crucial while deriving assessing sources of pollutants to ensure TMDL consistency across Montana.

TMDL Load Allocations. The TMDL program (within DEQ) will often need additional data in order to develop load allocations in conjunction with the source assessment/delineation. Load allocations are the portion of a receiving water's loading capacity that is attributed to existing or future point or non-point sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which can range from reasonably accurate estimates to gross allotments. Allocation can be expressed as a percent reduction that results in a maximum allowable load or as performance-based, which demonstrates how BMPs will be applied and how they will reduce the current loads. Communication with the State is crucial while deriving preliminary load allocations to ensure TMDL consistency across Montana.

Total Maximum Daily Loads. The TMDL program (within DEQ) will often need additional data in order to develop Total Maximum Daily Loads (TMDLs). A TMDL is defined as the sum of the wasteload allocations to point sources, load allocations to non-point sources and natural background sources with a margin of safety considering seasonal variation. TMDLS can be expresses in terms of mass per time, toxicity, or other appropriate measures that relate to the State's Water Quality Standards. Communication with the State is crucial while deriving preliminary TMDLs to ensure consistency across Montana.

Stakeholder Participation. The TMDL program (within DEQ) will often need additional assistance in order to develop implementation/restoration strategies and monitoring plans. These plans often require public involvement with the local stakeholders. These efforts typically results in developing the measures needed to achieve full beneficial use support or to monitoring the uncertainties that arise during the TMDL process. Offerors should be experienced in or have staff members with proper credentials to facilitate participation with local stakeholders.

TMDL Effectiveness Monitoring. Effectiveness monitoring will be required to evaluate the success of implementing a TMDL plan. Monitoring will often include the collection of some combination of chemical, physical or biological data, which can be used to determine if water quality is improving over time. Most monitoring designs and techniques will be fairly straightforward and may only require visiting a site once per year. In most cases, the contractor will be required to write an annual report, which can be used to determine if water quality is improving.

Geographic Information Systems (GIS) Services. The State, and in particular DEQ, will need assessments that characterize a watershed and identify and quantify all probable sources of pollutants. GIS maps will be required for every waterbody that is assessed. Thematic maps may include, but are not limited to: land ownership, land use, topography, hydrology, soils, precipitation, and/or endangered species distribution. In addition, DEQ may request that GIS applications be used to facilitate the interpretation and analysis of digital images and/or other georeferenced data.

Remote Sensing. The State may consider the use of remote sensing for characterizing a watershed and identifying probable sources of pollutants. For example, indicator metrics may be calculated from an air photo. Metrics may include active channel width, Rosgen level 1 Channel types, % shade, % land use, % land cover, average flood plain width, riparian corridor fragmentation, road density, road crossings, length of irrigation ditch/area, etc. DEQ may request contractors to assist them in developing remote sensing assessment techniques or to employ developed techniques in conducting detailed assessments. All data must be entered into an approved database structure, format, or program and linkage to the National Hydrography Dataset (NHD) streams layer may be requested. If necessary, the Contractor can subcontract in order to acquire the aerial photography products. All subcontractors for this task must be approved by the State prior to initiating a contract.

Statistical Analysis. The State may request that large data sets be statistically analyzed for determining trends or for making comparisons. This service area may include data compilation, organization, manipulation and analysis. These analyses may be used to validate environmental targets by comparing reference data to existing data. They may also be used to establish a relationship or linkage between indicators and targets, the estimated loads and how targets link to beneficial use support. Analyses should be appropriate for the type of data being analyzed. In many cases, the contractor will be responsible for determining and providing rationale for appropriate statistical analyses to address pre-formulated environmental hypotheses. Analyses must consider spatial and temporal variations. Analyses may range from providing simple descriptive statistics to reporting multifactor predictive analyses.

DEQ Electronic Data / Information Technical Assistance. The DEQ needs to be able to easily transmit water quality data into the modernized STORET database and make it more accessible to data consumers and the public. To accomplish this, the DEQ seeks to obtain technical products, services, and support, as needed, to migrate datasets to production database system(s) and improve data flow and data quality from a variety of sources into STORET. These tasks may include, but are not limited to solutions in commonly available software products to generate data that conforms to STORET and Oracle database requirements. Specific service areas sought include, but are not limited to: technical support for data conversion, reformatting, and/or normalization of existing historic and transformed datasets; automated data validation routines or procedures designed to support specific data quality objectives; technical solutions for data entry, data capture, and data reporting, maintenance, upgrades or enhancements to existing software interfaces; technical support in the implementation of STORET; acquisition of STORET-compatible data deliverables.

Heavy Equipment Operators. The State and other governmental entities utilize the services of Heavy Equipment Operators to implement environmental projects throughout Montana. Heavy Equipment Operators are encouraged to submit a proposal to allow for easy access for implementation of projects by various governmental entities. Contractors do not have to possess the equipment, but when submitting a proposal, they must incorporate the cost of equipment rental, mobilization and demobilization. The State does anticipate several firms to respond to this service area and we are therefore allowing offerors to designate the parts of the state in which they will be available for work. The attached forms for Heavy Equipment Costs and Location must be completed and incorporated into the proposal.

Revegetation Services. Revegetation Specialists are utilized by the State and other governmental entities to enhance and complete environmental project tasks. The services offered by Revegetation Specialists are planning, designing, implementation along with providing of supplies, materials and equipment necessary to carryout the tasks. If a firm does not have the staff or equipment to implant a project, they must then be able to demonstrate a plan for delivery of product and implementation of a project through subcontracting or professional cooperative agreements.

Communication/Education Services – Information Transfer & TMDL Technical Editing. Communication/education contractor specializing in information transfer would assist in the design, production and distribution of information for target audiences via TV, radio, or print media. These projects often require the conversion of complex water quality data into information the public can understand. Products include pamphlets, brochures, guidebooks, and videos; maintaining a webpage, writing press releases; set up public meetings, give interviews, make presentations at workshops and conferences and organize conferences and set up field trips. Offerors in this field may also specify their ability to provide Technical Editing of Natural Science documents, in particular Total Maximum Daily Load documents. Technical editing can include, but is not limited to proofreading for grammar and mathematical errors, document clarity, and linkage between different sections.

8.2 Reuse of Documents. When the projects dictate a design or engineered approach, the State agrees that it will not apply the Contractor's designs to any other projects.

9. ENGINEERING ACCESS

All of the firms selected may need to have access to engineering services depending on the nature of the project. The contractor(s) will be expected to use their own best judgment as to whether engineering services are needed for a given project. However, traditional engineering methodologies are not the emphasis of this RFP. It is a violation of State Statute to practice engineering or land surveying without a license.

10. PROJECT SELECTION

10.1 Project Identification. The State will be responsible for identifying projects, contacting landowners and securing necessary permission/cooperation agreements, selecting a contractor, writing grant applications and approving project payments.

10.2 Hazardous Materials. The State will not initiate projects where it is known that hazardous materials are present. If there is an indication of a potential of hazardous materials, then the State will do testing prior to contacting the contractor. However, there is always the possibility of unforeseen problems resulting in the stoppage of a project.

10.3 Meetings. The selected contractor may be required to meet with State personnel at the project site to conduct a site evaluation, discuss project issues and begin the negotiation process on project feasibility, conceptual design and costs for each project.

10.4 Approach Expectations. In the case of restoration activities, the agency will identify the preferred techniques. The determination made by the State may define which contractor(s) are contacted for project initiation. The State is always open to new and innovative approaches that accomplish project goals.

11. SELECTING A CONTRACTOR

The State may select a term contract holder from the Environmental Services contract home page as provided under the state's website address http://www.discoveringmontana.com/doa/gsd/procurement/TermContracts/environservices/Default.asp, taking into consideration such things as the contractor's area of expertise, requirements and location of the project, the contractor's availability and access to resources necessary to efficiently and effectively complete the project, demonstrated excellent past performance on State and public projects, identified subcontractors and total project cost.

General. Ordering agencies shall use the procedures in this section when ordering services priced at hourly rates as established by each Term Contract (TC). The applicable service categories are identified in each TC along with the contractor's price lists.

Request for Quotation (RFQ) procedures. The ordering agency must provide an RFQ, which includes the statement of work and limited, but specific evaluation criteria (*e.g.*, experience and past performance), to TC

contractors that offer services that will meet the agency's needs. The RFQ may be posted to the agency's state website to expedite responses.

Statement of Work (SOWs). All SOW's shall include at a minimum a detailed description of the work to be performed, location of work, period of performance, deliverable schedule, applicable performance standards and any special requirements (e.g., security clearances, travel, special knowledge).

(1) Ordering agency may select a contractor from the appropriate service category and directly negotiate a mutually acceptable project based on a sudden and unexpected happening or unforeseen occurrence or condition, which requires immediate action. (Exigency).

(2) Ordering agency may place orders at or below the $5,000 threshold with any TC contractor that can meet the agency's needs. The ordering agency should attempt to distribute orders among all service category contractors.

(3) For orders estimated to exceed $5,000 but less than $25,000.

(i) The ordering agency shall develop a statement of work.
(ii) The ordering agency shall provide the RFQ (including the statement of work and evaluation criteria) to at least three TC contractors that offer services that will meet the agency's needs.
(iii) The ordering agency shall request that contractors submit firm-fixed prices to perform the services identified in the statement of work.

(4) For orders estimated to exceed $25,000. In addition to meeting the requirements of (3) above, the ordering agency shall:

(i) Provide the RFQ (including the statement of work and the evaluation criteria) to a minimum of six service category TC contractors (if category has less than 6, all contractors will be offered an RFQ) with a 50% replacement factor for each subsequent request for quote in the same service category.

Evaluation. The ordering agency shall evaluate all responses received using the evaluation criteria provided in the RFQ to each TC contractor. The ordering agency is responsible for considering the level of effort and the mix of labor proposed to perform a specific task being ordered, and for determining that the total price is reasonable. The agency will place the order with the contractor that represents the best value. After award, ordering agencies will provide timely notification to unsuccessful TC contractors. If an unsuccessful TC contractor requests information on a task order award that was based on factors other than price alone, a brief explanation of the basis for the award decision shall be provided.

Minimum documentation. The ordering agency shall document:
(1) The TC contractors considered, noting the contractor from which the service was purchased.
(2) A description of the service purchased.
(3) The amount paid.
(4) The evaluation methodology used in selecting the contractor to receive the order.
(5) The rationale for making the selection.
(6) Determination of price fair and reasonableness.

Agency project task orders will be utilized to finalize the project. Only written addenda will be used for adjustments of the task orders and must be signed by both parties. All task orders must contain signatures from both parties and appropriate agency legal review as directed in their procurement policy.

The State will monitor contractor selection by using the information provided in the annual TC usage reports.

Contractor's who fail to respond to three RFQ opportunities within a one-year period between July 1st and June 30th may be removed from the qualified list of contractors.

12. CONTRACTOR RESPONSIBILITIES

12.1 Supervision and Implementation. The selected contractor for an individual project will be responsible for the supervision and implementation of the approach and will be responsible for oversight of work performed by all subcontractors. In most cases the contractor will provide and be responsible for all the necessary equipment, materials, supplies and personnel necessary for proper execution of the work. However, the State reserves the right to hire subcontractors (equipment and/or labor) if it will provide a cost savings to the State. The selected contractor will also be responsible for clean up of the sites if necessary and must have the sites inspected by the State immediately prior to completion.

12.2 On-Site Requirements. When a contractor is contacted by the State to discuss a project, the State and the contractor may visit the job site if deemed necessary by the Project Manager, to become familiar with conditions relating to the project and the labor requirements. The State will provide a detailed scope of work for the project and request the contractor supply the State with a response to project approach, cost, timeframe and any other information deemed necessary by the State to make a selection or complete a contract negotiation.

In the cases of Restoration or On-The-Ground Activities, the contractor shall adequately protect the work, adjacent property, and the public in all phases of the work. They shall be responsible for all damages or injury due to their action or neglect.

The contractor shall maintain access to all phases of the contract pending inspection by the State, the landowner, or their representative. All interim or final products funded by the contract will become the property of the State or Cooperative Purchaser upon payment for said products.

All work rejected as unsatisfactory shall be corrected prior to final inspection and acceptance. The contractor shall respond within seven calendar days after notice of observed defects has been given and shall proceed to immediately remedy these defects. Should the contractor fail to respond to the notice or not remedy the defects, the State may have the work corrected at the expense of the contractor.

12.3 Clean Up (when project tasks require). The contractor shall:

- Keep the premises free from debris and accumulation of waste;
- Clean up any oil or fuel spills;
- Keep machinery clean and free of weeds;
- Remove all construction equipment, tools and excess materials; and
- Perform finishing site preparation to limit the spread of noxious weeds before final payment by the State.

12.4 Applicable Laws. The contractor shall keep informed of, and shall comply with all applicable laws, ordinances, rules, regulations and orders of the City, County, State, Federal or public bodies having jurisdiction affecting any work to be done to provide the services required. The contractor shall provide all necessary safeguards for safety and protection, as set forth by the United States Department of Labor, Occupational Safety and Health Administration.

12.5 Cooperation. The contractor shall work closely with the States analytical consultants, (i.e. environmental laboratories and taxonomists) to develop the desired products.

12.6 Work Acceptance. The contractor is responsible for project oversight as needed. The State may also periodically provide personnel for administrative oversight from the initiation of the contract through project completion. All work will be inspected by the State or designated liaison prior to approval of any contract payments. All work rejected as unsatisfactory shall be corrected prior to final inspection and acceptance. Contractor shall respond within seven calendar days after notice of defects has been given by the State and proceed to immediately remedy all defects.

12.7 Records. The contractor will supply the State with documentation, when requested, of methods used throughout project implementation. Contractor will maintain records for themselves and all subcontractors of supplies, materials, equipment and labor hours expended.

12.8 Communication. Remoteness of project sites may necessitate that the contractor have some form of field communication such as a cellular phone. This communication is necessary to enable the State to respond to public concerns related to the project, accidents, inspections, or other project issues that require immediate feedback. In addition, the State or Cooperative Purchaser may require scheduled communication at agreed upon intervals. The communication schedule will be dependent upon the project circumstances and requirements of the contracting agency. In the case when a communication schedule is included in the Scope of Work, the schedule will commence when the contractor initiates the project.

12.9 Change Of Staffing. Since qualifications of personnel were key in determining which offerors were selected to be on this TC, a written notification of any changes in key personnel must be made to the state agency, prior to entering into negotiations to perform any specific work scope. Contractor shall replace such employee(s) at its own expense with an employee of substantially equal abilities and qualifications without additional cost to the agency. If these staffing changes cause the contractor to no longer meet the qualifications stated herein, that firm will be removed from the service area of this TC. Failure to notify the state agency of staffing changes could result in the contractor being removed from the TC listing and possible suspension from bidding on other state projects.

12.10 Collaboration. The State encourages collaboration between contractors to increase the scope of services offered. In cases where the chosen contractor is not able to provide all services needed for the project, the State will expect the chosen contractor to contact other contractors on this list to negotiate subcontracts for these services before going elsewhere. Exceptions to this strategy will be evaluated on a case-by-case basis.

12.11 Subcontractors, Project Budget and Invoicing. All subcontractors to be used in any project must be approved by the authorized entity initiating the project. Project budgets will be negotiated for each individual project contract. However, all rates, terms and conditions set forth in this term contract will be applied to individual contracts. Subcontractor is defined as anyone other than the prime contractor having substantial direct involvement in a specific project.

The State reserves the right to choose the invoicing method from the following:

- Prime contractor's billing will include the subcontractors charges and payment will be made to the prime, or
- Prime and subcontractors will bill the State separately and the State will pay each directly.

13. CONSIDERATION/PAYMENT

13.1 Payment Schedule. In consideration for the services to be provided, the State shall pay according to the negotiated agreement for each project. Hourly rates and miscellaneous charges as provided in Attachment B shall apply.

13.2 Withholding of Payment. The State may withhold payments to the Contractor if the Contractor has not performed in accordance with this contract. Such withholding cannot be greater than the additional costs to the State caused by the lack of performance.

14. CONTRACTOR REGISTRATION

The Contractor will be registered with the Department of Labor and Industry under sections 39-9-201 and 39-9-204, MCA, *prior* to contract execution. The State cannot execute a contract for construction to a Contractor who is not registered. (Mont. Code Ann. § 39-9-401.)

Contractor Registration Number: 149142

15. CONTRACTOR WITHHOLDING

Section 15-50-206, MCA, requires the state agency or department for whom a public works construction contract over $5,000 is being performed, to withhold 1 percent of all payments and to transmit such monies to the Department of Revenue.

16. MONTANA PREVAILING WAGE REQUIREMENTS

Unless superseded by federal law, Montana law requires that contractors and subcontractors give preference to the employment of Montana residents for any public works contract in excess of $25,000 for construction or nonconstruction services in accordance with sections 18-2-401 through 18-2-432, MCA, and all administrative rules adopted pursuant thereto. Unless superseded by federal law, at least 50% of the workers of each contractor engaged in construction services must be performed by bona fide Montana residents. The Commissioner of the Montana Department of Labor and Industry has established the resident requirements in accordance with sections 18-2-403 and 18-2-409, MCA. Any and all questions concerning prevailing wage and Montana resident issues should be directed to the Montana Department of Labor and Industry.

In addition, unless superseded by federal law, all employees working on a public works contract shall be paid prevailing wage rates in accordance with sections 18-2-401 through 18-2-432, MCA, and all administrative rules adopted pursuant thereto. Montana law requires that all public works contracts, as defined in section 18-2-401, MCA, in which the total cost of the contract is in excess of $25,000, contain a provision stating for each job classification the standard prevailing wage rate, including fringe benefits, travel, per diem, and zone pay that the contractors, subcontractors, and employers shall pay during the public works contract.

Furthermore, section 18-2-406, MCA, requires that all contractors, subcontractors, and employers who are performing work or providing services under a public works contract post in a prominent and accessible site on the project staging area or work area, no later than the first day of work and continuing for the entire duration of the contract, a legible statement of all wages and fringe benefits to be paid to the employees in compliance with section 18-2-423, MCA. Section 18-2-423, MCA, requires that employees receiving an hourly wage must be paid on a weekly basis.

Each contractor, subcontractor, and employer must maintain payroll records in a manner readily capable of being certified for submission under section 18-2-423, MCA, for not less than three years after the contractor's, subcontractor's, or employer's completion of work on the public works contract.

The nature of the work performed or services provided under this contract meets the statutory definition of a "public works contract" under section 18-2-401(11)(a), MCA, and falls under the category of Heavy Construction and Nonconstruction services. The booklets containing Montana's 2003 Rates for Nonconstruction Services **and 2004 Rates for Heavy Construction** are attached.

The most current Montana Prevailing Wage Booklet will automatically be incorporated at time of renewal. It is the contractor's responsibility to ensure they are using the most current prevailing wages during performance of its covered work.

17. ACCESS AND RETENTION OF RECORDS

17.1 Access to Records. The Contractor agrees to provide the State, Legislative Auditor or their authorized agents access to any records necessary to determine contract compliance. (Mont. Code Ann. § 18-1-118.)

17.2 Retention Period. The Contractor agrees to create and retain records supporting the environmental services for a period of three years after either the completion date of this contract or the conclusion of any claim, litigation or exception relating to this contract taken by the State of Montana or a third party.

18. ASSIGNMENT, TRANSFER AND SUBCONTRACTING

The Contractor shall not assign, transfer or subcontract any portion of this contract without the express written consent of the State. (Mont. Code Ann. § 18-4-141.) The Contractor shall be responsible to the State for the acts and omissions of all subcontractors or agents and of persons directly or indirectly employed by such subcontractors, and for the acts and omissions of persons employed directly by the Contractor. No contractual relationships exist between any subcontractor and the State.

19. HOLD HARMLESS/INDEMNIFICATION

The Contractor agrees to protect, defend, and save the State, its elected and appointed officials, agents, and employees, while acting within the scope of their duties as such, harmless from and against all claims, demands, causes of action of any kind or character, including the cost of defense thereof, arising in favor of the Contractor's employees or third parties on account of bodily or personal injuries, death, or damage to property arising out of services performed or omissions of services or in any way resulting from the acts or omissions of the Contractor and/or its agents, employees, representatives, assigns, subcontractors, except the sole negligence of the State, under this agreement.

20. REQUIRED INSURANCE

20.1 General Requirements. The Contractor shall maintain for the duration of the contract, at its cost and expense, insurance against claims for injuries to persons or damages to property, including contractual liability, which may arise from or in connection with the performance of the work by the Contractor, agents, employees, representatives, assigns, or subcontractors. This insurance shall cover such claims as may be caused by any negligent act or omission.

20.2 Primary Insurance. The Contractor's insurance coverage shall be primary insurance as respect to the State, its officers, officials, employees, and volunteers and shall apply separately to each project or location. Any insurance or self-insurance maintained by the State, its officers, officials, employees or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

20.3 Specific Requirements for Commercial General Liability. The Contractor shall purchase and maintain occurrence coverage with combined single limits for bodily injury, personal injury, and property damage of $1,000,000 per occurrence and $2,000,000 aggregate per year to cover such claims as may be caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns or subcontractors.

20.4 Additional Insured Status. The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insureds; for liability arising out of activities performed by or on behalf of the Contractor, including the insured's general supervision of the Contractor; products and completed operations; premises owned, leased, occupied, or used.

20.5 Specific Requirements for Automobile Liability. The Contractor shall purchase and maintain coverage with split limits of $500,000 per person (personal injury), $1,000,000 per accident occurrence (personal injury), and $100,000 per accident occurrence (property damage), OR combined single limits of $1,000,000 per occurrence to cover such claims as may be caused by any act, omission, or negligence of the contractor or its officers, agents, representatives, assigns or subcontractors.

20.6 Additional Insured Status. The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insureds for automobiles leased, hired, or borrowed by the Contractor.

20.7 Specific Requirements for Professional Liability. The Contractor shall purchase and maintain occurrence coverage with combined single limits for each wrongful act of $1,000,000 per occurrence and $2,000,000 aggregate per year to cover such claims as may be caused by any act, omission, negligence of the Contractor or its officers, agents, representatives, assigns or subcontractors. Note: if "occurrence" coverage is unavailable or cost prohibitive, the Contractor may provide "claims made" coverage provided the following conditions are met: (1) the commencement date of the contract must not fall outside the effective date of insurance coverage and it will be the retroactive date for insurance coverage in future years; and (2) the claims made policy must have a three year tail for claims that are made (filed) after the cancellation or expiration date of the policy.

20.8 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be declared to and approved by the state agency. At the request of the agency either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the State, its officers, officials, employees,

or volunteers; or (2) at the expense of the Contractor, the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claims administration, and defense expenses.

20.9 Certificate of Insurance/Endorsements. A certificate of insurance from an insurer with a Best's rating of no less than A- indicating compliance with the required coverages, has been received by the State Procurement Bureau, PO Box 200135, Helena MT 59620-0135. The Contractor must notify the State immediately, of any material change in insurance coverage, such as changes in limits, coverages, change in status of policy, etc. The State reserves the right to require complete copies of insurance policies at all times.

21. COMPLIANCE WITH THE WORKERS' COMPENSATION ACT

Contractors are required to comply with the provisions of the Montana Workers' Compensation Act while performing work for the State of Montana in accordance with sections 39-71-120, 39-71-401, and 39-71-405, MCA. Proof of compliance must be in the form of workers' compensation insurance, an independent contractor's exemption, or documentation of corporate officer status. Neither the contractor nor its employees are employees of the State. This insurance/exemption must be valid for the entire term of the contract. A renewal document must be sent to the State Procurement Bureau, PO Box 200135, Helena MT 59620-0135, upon expiration.

22. COMPLIANCE WITH LAWS

The Contractor must, in performance of work under this contract, fully comply with all applicable federal, state, or local laws, rules and regulations, including the Montana Human Rights Act, the Civil Rights Act of 1964, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, and Section 504 of the Rehabilitation Act of 1973. Any subletting or subcontracting by the Contractor subjects subcontractors to the same provision. In accordance with section 49-3-207, MCA, the Contractor agrees that the hiring of persons to perform the contract will be made on the basis of merit and qualifications and there will be no discrimination based upon race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing the contract.

23. INTELLECTUAL PROPERTY

All patent and other legal rights in or to inventions created in whole or in part under this contract must be available to the State for royalty-free and nonexclusive licensing. Both parties shall have a royalty-free, nonexclusive, and irrevocable right to reproduce, publish or otherwise use and authorize others to use, copyrightable property created under this contract.

24. PATENT AND COPYRIGHT PROTECTION

24.1 Third Party Claim. In the event of any claim by any third party against the State that the products furnished under this contract infringe upon or violate any patent or copyright, the State shall promptly notify Contractor. Contractor shall defend such claim, in the State's name or its own name, as appropriate, but at Contractor's expense. Contractor will indemnify the State against all costs, damages and attorney's fees that accrue as a result of such claim. If the State reasonably concludes that its interests are not being properly protected, or if principles of governmental or public law are involved, it may enter any action.

24.2 Product Subject of Claim. If any product furnished is likely to or does become the subject of a claim of infringement of a patent or copyright, then Contractor may, at its option, procure for the State the right to continue using the alleged infringing product, or modify the product so that it becomes non-infringing. If none of the above options can be accomplished, or if the use of such product by the State shall be prevented by injunction, the State will determine if the Contract has been breached.

25. CONTRACT TERMINATION

25.1 Termination for Cause. The State may, by written notice to the Contractor, terminate this contract in whole or in part at any time the Contractor fails to perform this contract.

25.2 Reduction of Funding. The State, at its sole discretion, may terminate or reduce the scope of this contract if available funding is reduced for any reason. (See Mont. Code Ann. § 18-4-313(3).)

26. STATE PERSONNEL

26.1 State Contract Manager. The State Contract Manager identified below is the State's single point of contact and will perform all contract management pursuant to section 2-17-512, MCA, on behalf of the State. Written notices, requests, complaints or any other issues regarding the contract should be directed to the State Contract Manager.

The State Contract Manager for this contract is:

Robert Oliver, Contracts Officer
Room 165 Mitchell Building
125 North Roberts
PO Box 200135
Helena MT 59620-0135
Telephone #: (406) 444-0110
Fax #: (406) 444-2529
E-mail: roliver@mt.gov

26.2 State Project Manager. Each using State agency or Cooperative Purchaser will identify a Project Manager in the project task order. The Project Manager will manage the day-to-day project activities on behalf of the State/Cooperative Purchaser.

27. CONTRACTOR PERSONNEL

27.1 Change Of Staffing. Since qualifications of personnel was key in determining which offerors were selected to be on this term contract list, a written notification to the State Procurement Bureau of any changes of key personnel must be made within two weeks of the change. These change notifications will be completed upon the departure or hiring of key personnel who are professional employees critical to awarded service areas. If these staffing changes cause the firm to no longer meet the qualifications stated herein, that firm will be removed from the service area of this term contract. Failure to notify the State Procurement Bureau of staffing changes could result in the contractor being removed from the term contract listing and possible suspension from bidding on other State projects.

27.2 Contractor Contract Manager. The Contractor Contract Manager identified below will be the single point of contact to the State Contract Manager and will assume responsibility for the coordination of all contract issues under this contract. The Contractor Contract Manager will meet with the State Contract Manager and/or others necessary to resolve any conflicts, disagreements, or other contract issues.

The Contractor Contract Manager for this contract is:

John Muhlfeld, Hydrologist
PO Box 1722
Whitefish, MT 59937
Telephone #: (406) 862-4927
Fax #: (406) 862-4963
Cell Phone #: (406) 250-9301
E-mail: jmuhlfeld@riverdesigngroup.net

Matt Daniels, P.E.
PO Box 1722
Whitefish, MT 59937
Telephone #: (406) 862-4927
Fax #: (406) 862-4963
Cell Phone #: (406) 250-8107
E-mail: mdaniels@riverdesigngroup.net

Troy Brandt, Fisheries Biologist
6029 SW 33rd Place
Portland, OR 97239
Telephone #: (503) 244-1535
Fax #: (503) 244-1535
Cell Phone #: (406) 250-0841
E-mail: tbrandt@riverdesigngoup.net

Amy Beussink, Hydrologist/GIS Analyst
PO Box 1722
Whitefish, MT 59937
Telephone #: (406) 862-4927
Fax #: (406) 862-4963
Cell Phone #: (406-270-0905
E-mail: abeussink@riverdesigngroup.net

27.3 Contractor Project Manager. The Contractor Project Manager identified below will manage the day-to-day project activities on behalf of the Contractor:

The Contractor Project Manager for this contract is:

John Muhlfeld, Hydrologist
PO Box 1722
Whitefish, MT 59937
Telephone #: (406) 862-4927
Fax #: (406) 862-4963
Cell Phone #: (406) 250-9301
E-mail: jmuhlfeld@riverdesigngroup.net

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6029 SW 33rd Place
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Whitefish, MT 59937
Telephone #: (406) 862-4927
Fax #: (406) 862-4963
Cell Phone #: (406-270-0905
E-mail: abeussink@riverdesigngroup.net

28. MEETINGS

The Contractor is required to meet with the State's personnel, or designated representatives, to resolve technical or contractual problems that may occur during the term of the contract or to discuss the progress made by Contractor and the State in the performance of their respective obligations, at no additional cost to the State. Meetings will occur as problems arise and will be coordinated by the State. The Contractor will be given a minimum of three full working days notice of meeting date, time, and location. Face-to-face meetings are desired. However, at the Contractor's option and expense, a conference call meeting may be substituted. Consistent failure to participate in problem resolution meetings two consecutive missed or rescheduled meetings, or to make a good faith effort to resolve problems, may result in termination of the contract.

29. CONTRACTOR PERFORMANCE ASSESSMENTS

The State may do assessments of the Contractor's performance. This contract may be terminated for one or more poor performance assessments. Contractors will have the opportunity to respond to poor performance assessments. The State will make any final decision to terminate this contract based on the assessment and any related information, the Contractor's response and the severity of any negative performance assessment. The Contractor will be notified with a justification of contract termination. Performance assessments may be considered in future solicitations.

30. TRANSITION ASSISTANCE

If this contract is not renewed at the end of this term, or is terminated prior to the completion of a project, or if the work on a project is terminated, for any reason, the Contractor must provide for a reasonable period of time after the expiration or termination of this project or contract, all reasonable transition assistance requested by the State, to allow for the expired or terminated portion of the services to continue without interruption or adverse effect, and to facilitate the orderly transfer of such services to the State or its designees. Such transition assistance will be deemed by the parties to be governed by the terms and conditions of this contract, except for those terms or conditions that do not reasonably apply to such transition assistance. The State shall pay the Contractor for any resources utilized in performing such transition assistance at the most current rates provided by the contract. If there are no established contract rates, then the rate shall be mutually agreed upon. If the State terminates a project or this contract for cause, then the State will be entitled to offset the cost of paying the Contractor for the additional resources the Contractor utilized in providing transition assistance with any damages the State may have otherwise accrued as a result of said termination.

31. CHOICE OF LAW AND VENUE

This contract is governed by the laws of Montana. The parties agree that any litigation concerning this bid, proposal or subsequent contract must be brought in the First Judicial District in and for the County of Lewis and Clark, State of Montana and each party shall pay its own costs and attorney fees. (See Mont. Code Ann. § 18-1-401.)

32. SCOPE, AMENDMENT AND INTERPRETATION

32.1 Contract. This contract consists of 13 numbered pages, any Attachments as required, RFP # SPB05-894P**,** as amended and the Contractor's RFP response as amended. In the case of dispute or ambiguity about the minimum levels of performance by the Contractor the order of precedence of document interpretation is in the same order.

32.2 Entire Agreement. These documents contain the entire agreement of the parties. Any enlargement, alteration or modification requires a written amendment signed by both parties.

33. EXECUTION

The parties through their authorized agents have executed this contract on the dates set out below.

DEPARTMENT OF ADMINISTRATION
STATE PROCUREMENT BUREAU
PO BOX 200135
HELENA MT 59620-0135

BY:_____
Penny Moon, Contracts Officer

BY:_____
(Signature)

DATE:_____

RIVER DESIGN GROUP, INC.
911 WISCONSIN AVENUE
WHITEFISH MT 59937
FEDERAL ID # 75-3125545

BY:_____
(Name/Title)

BY:_____
(Signature)

DATE:_____

ATTACHMENT A
CONTRACTOR'S RESPONSE

Section 4: Offeror Qualifications

4.0. River Design Group, Inc. understands and will comply.
4.1. River Design Group, Inc. understands and will comply.
4.1.1 River Design Group, Inc. understands and will comply.
4.1.2 River Design Group, Inc. understands and will comply.
4.1.3 River Design Group, Inc. understands and will comply.
4.1.4 River Design Group, Inc. understands and will comply.

4.2 River Design Group, Inc. understands and will comply.

4.2.1 Water Quality Monitoring – Fixed Station and Probabilistic Design

RDG has completed multiple projects requiring the types of skills outlined in the Water Quality Monitoring – Fixed Station and Probabilistic Design Service Area. RDG employs standard US Forest Service and US Geological Survey methodologies for collecting water chemistry samples, suspended sediment and bedload samples, and surveying channel morphology, floodplain, and watershed characteristics. The following sections outline five projects that required these skills.

4.2.1.1 References

RDG principals have completed numerous watershed assessment projects that required channel morphology, floodplain, and watershed quantitative evaluations. Three of the following projects required water quality monitoring as a project component. These projects were completed by RDG's principals while they were employed by Water Consulting, Inc. Two additional projects that required watershed assessment skills were completed by RDG. These projects are representative of projects RDG has completed in the past and are currently engaged in.

Project Name: Stillwater River Clean Sediment TMDL

Company: River Design Group, Inc. and Water Consulting, Inc.
Client: Montana Department of Environmental Quality
Flathead Basin Commission
Project Location: Stillwater River near Kalispell, Montana
Project Contact: Mr. George Mathieus, DEQ
Phone: (406) 444-7423
Completion Date: 2002 – 2004

Project Description: RDG and RDG's principals while with Water Consulting, Inc. completed a Phase 1 and are in the process of completing a Phase 2 TMDL for the Stillwater River. The Phase 1 tasks included a general watershed characterization and review of existing data and reports. Phase 2 consisted of a rigorous water quality sampling and analysis plan with 9 fixed monitoring stations that were sampled over 7 sampling periods. Sampling included discharge calculations, water quality sampling (nutrients and chemistry), suspended sediment sampling, periphyton and aquatic macroinvertebrate sampling, and channel morphology analysis. Statistical analyses were completed for nutrient and sediment concentrations. Nutrient and sediment loading rates were also calculated and linked to coarse land use classifications within the basin. A draft Phase 2 report has been submitted for review to DEQ and the project sponsors. Phase 3 will include development of load targets and load allocation for the basin. Applicable services required for the project included:
• Water quality monitoring
• TMDL source assessment, analysis, load calculations
• Statistical analysis
• Technical writing/editing
• GIS and remote sensing

Project Staff	Members Project Tasks
John Muhlfeld	Data Collection, Physical Assessment, Reporting
Troy Brandt	Project Management, Biological Assessment, Statistical Analysis Determination, Target Development
Ted Belcer	Water Quality Monitoring
Jonathan Ferree	Water Quality Monitoring, Remote Sensing, Statistical Analysis
Amy Beussink	GIS Analysis

Project Name: Haskill Basin Water Quality Restoration Plan and TMDL

Company: River Design Group, Inc. and Water Consulting, Inc.
Client: Flathead Conservation District
Haskill Basin Watershed Council
Project Location: Haskill Creek near Whitefish, Montana
Project Contact: Mr. Mike Miller, HBWC Coordinator
Phone: (406) 847-5560
Completion Date: On-going

Project Description: Flathead Conservation District in cooperation with the Haskill Basin Watershed Council contracted RDG's principals to complete a watershed characterization, basin-wide pollutant source investigation, and water quality restoration plan for Haskill Creek near Whitefish, Montana. Haskill Basin has been impacted by a variety of commercial and residential land use practices, resulting in increased sediment yields and impaired aquatic habitat. RDG applied a modified Washington Forest Practices Board Methodology to quantify contributing surface area of exposed soil to the drainage as a surrogate for sediment production in the basin. Water quality data collected by Water Consulting, Inc. and the City of Whitefish were statistically summarized and evaluated to estimate sediment and nutrient loading in the Haskill Basin. A Water Quality Restoration Plan was developed in cooperation with MDEQ to address the causes and sources of water quality impairment. Subsequent project phases will include fixed water quality monitoring, load targets, and load allocations. Applicable services required for the project included:

- Water quality monitoring
- TMDL source assessment, analysis, load calculations
- Statistical analysis
- Technical writing/editing
- Remote sensing
- Communication/Educational Services – Information & Education
- Communication/Educational Services – Information Transfer & TMDL

Project Staff	Members Project Tasks
John Muhlfeld	Project Management, Physical Assessment, Analysis, Reporting
Troy Brandt	Statistical Analysis, TMDL Target Development
Matt Daniels	Road Sediment Modeling, Culvert and Bridge Assessments Jonathan Ferree
	TMDL Source Assessment, Statistical Analysis

Project Name: Boulder River Project Monitoring

Company: River Design Group, Inc. and Water Consulting, Inc.
Client: Beaver Meadows Ranch
Project Location: Boulder River near McLeod, Montana
Project Contact: Mr. Tory Covey
Phone: (406) 932-6183
Completion Date: On-going

Project Description: RDG's principals while employed by Water Consulting, Inc. initiated a restoration project monitoring plan for the owners of Beaver Meadows Ranch. The initial water quality monitoring plan evaluated river reconstruction-related turbidity at the onset of project construction and at the end of the project period. Sampling consisted of fixed station suspended sediment sampling. Subsequent monitoring has included resurveying cross-sections and longitudinal profiles in treatment and control reaches of the project area. Additional data collection includes pebble counts, photo points, spawning redd counts, and aerial photographs. The monitoring plan was developed in coordination with the US Army Corps of Engineers, DEQ, and MFWP. Monitoring will be completed in 2006. An annual monitoring report is prepared and distributed to the landowner and the participating permitting agencies. Applicable services required for the project include:

- Water quality monitoring – streams
- Statistical analysis
- Technical writing/editing

Project Staff Members	Project Tasks
Troy Brandt	Project Manager, Data Collection, Analysis, Reporting
Jonathan Ferree	Data Collection, Statistical Analysis
Ted Belcer	Data Collection

Project Name: Prospect Creek Water Quality Restoration Plan and TMDL U

Company:	River Design Group, Inc.
Client:	Green Mountain Conservation District
Project Location:	Prospect Creek near Thompson Falls, Montana
Project Contact:	Mr. Jay Stuckey
Phone:	(406) 827-4823
Completion Date:	On-going

Project Description: MDEQ and the Prospect Creek Watershed Council initiated TMDL development and water quality restoration planning on Prospect Creek in 2003. Prospect Creek has been impacted by a variety of land use activities, notably installation of utility facilities within the active belt width of the channel, and commercial logging activities in the headwaters. The TMDL process has involved three discrete phases, including: (1) Watershed Characterization and Reassessment; (2) Pollutant Source Assessment, and (3) Water Quality Planning and TMDL Development. RDG staff members completed Phase 1 in early 2003 and are currently completing Phase 2. Project tasks have included channel surveys, quantifying sediment sources, evaluating fish habitat, and remote sensing. RDG will complete Phase 3 in 2004. RDG collaborated with the USFS during Phase 1. Applicable services required for the project include:

- Channel and floodplain morphology surveys
- TMDL source assessment, analysis, load calculations
- Statistical analysis
- Technical writing/editing
- GIS and remote sensing

Project Staff	Members Project Tasks
John Muhlfeld	Project Manager, Data Collection, Analysis, Reporting
Troy Brandt	Data Collection, Analysis, Reporting
Matt Daniels	Road Sediment Modeling, Culvert and Bridge Assessments
Jonathan Ferree	Field Manager, TMDL Source Assessment, Channel Morphology Data Collection, Statistical Analysis
Amy Beussink	GIS, Data Collection, Analysis, Database Normalization
Matt Daniels	Bridge and Road Evaluation
Andy Belski	Remote Sensing
Justin Smith	TMDL Source Assessment, Channel Morphology, Data Collection

Project Name: Pilgrim Creek Water Quality Restoration Plan and TMDL

Company: River Design Group, Inc.
Client: Pilgrim Creek Watershed Council
Project Location: Pilgrim Creek near Trout Creek, Montana
Project Contact: Mr. Mike Miller
Phone: (406) 847-5560
Completion Date: 2004

Project Description: RDG collaborated with USFS on an Avista funded project to assess the existing conditions of the Pilgrim Creek watershed. Project tasks included evaluating upland, floodplain, riparian, and channel conditions throughout the Pilgrim Creek watershed. RDG focused on the privately owned portion of the watershed, and USFS evaluated the publicly owned headwaters of the watershed. GIS data analyses were completed by USFS and RDG to illustrate stream types, sediment sources, survey locations, and the road network. RDG and USFS completed a sediment source inventory for the watershed and identified restoration opportunities. RDG proposed several conceptual restoration treatments for unstable stream sections that contribute substantial sediment to the stream network. RDG will continue to collaborate with USFS and Montana Department of Environmental Quality to develop a total maximum daily load (TMDL) plan for the Pilgrim Creek watershed. Applicable services required for the project include:

- Channel and floodplain morphology surveys
- TMDL source assessment and analysis
- Statistical analysis
- Technical writing/editing
- GIS and remote sensing

Project Staff	Members Project Tasks
Troy Brandt	Project Manager, Data Collection, Analysis, Reporting
Jonathan Ferree	TMDL Source Assessment, Channel Morphology Data Collection, Statistical Analysis
Amy Beussink	GIS Analysis
Andy Belski	Remote Sensing

4.2.1.2 Company Profile and Experience

River Design Group, Inc. is an environmental consulting firm offering hydrology, fisheries, hydrographic surveying, and hydraulic engineering services to private and public entities throughout the Pacific Northwest. Established in August 2003, RDG's principals worked together for Water Consulting, Inc., formerly based in Hamilton, Montana. Since founding RDG, additional professional and technician-level employees have been hired to expand the company's expertise. With offices in Whitefish, Montana and Portland, Oregon, RDG employs a skilled, professional staff with over 35 years of consulting experience. RDG believes that working with natural river systems requires teamwork among multiple professions. As such, the founding principals of RDG have degrees in hydrology, biology, land surveying (hydrographic emphasis) and civil engineering. RDG is committed to providing timely, cost-efficient products and services to local and regional clients.

RDG is uniquely qualified to provide technical consulting services for the service areas outlined in the General Services request for proposals. RDG employs innovative data collection, assessment, and restoration design services based on both traditional and state-of-the-art methods. RDG professionals have completed extensive natural resources training programs to complement their academic backgrounds. To remain current with contemporary environmental analysis practices, RDG employees complete annual training with renowned practitioners in resource assessment and restoration fields. With this foundation, RDG's techniques are continuously evolving in response to new, and more efficient methods for collecting information, assessing, and monitoring watershed and water quality conditions.

RDG's professionals have been involved in all components of water quality monitoring, channel surveys, and remote sensing for a minimum of five years. Additionally, RDG's professionals have extensive experience in

applying the Rosgen Stream Classification System. Two of RDG's principals have completed the suite of Wildland Hydrology's stream restoration classes, a third principal has completed two courses, and RDG's GIS analyst/hydrologist will be completing the last course this fall. RDG regularly applies these techniques and other US Forest Service and US Geological Survey methods for stream assessment and restoration projects.

4.2.1.3 Method of Providing Services & Quality Assurance

The Stillwater River Clean Sediment TMDL is the most comprehensive water quality monitoring program RDG has been engaged in. Although the transition from Water Consulting, Inc. to River Design Group required substantial coordination among MDEQ, the Flathead Basin Commission (FBC), the Department of Natural Resources and Conservation (DNRC), and the founders of RDG, RDG completed an extensive water quality sampling plan to determine suspended sediment and nutrient loading to the Stillwater River near Kalispell, Montana.

The following information pertains to the water quality sampling portion of the overall Stillwater River Clean Sediment TMDL plan. RDG collaborated with DEQ and an FBC contractor to establish the sampling protocol. RDG also contacted a local environmental lab, M.E. Laboratory, to establish the proper sampling protocol. RDG organized a proposed sampling plan based on US Environmental Protection Agency, US Geological Survey, and M.E. Lab sampling and sample processing methods. After establishing the appropriate sampling protocols, sampling schedule, and data management techniques, Jonathan Ferree and Ted Belcer were assigned to coordinate the data collection.

RDG applied standard water quality sampling techniques established by the US Geological Survey. RDG used a bridge crane and DH-76 sampler when stream discharge precluded wading. When wading was possible, water quality samples were collected using a DH-48 sampler. Samples were depth-integrated to provide an accurate estimate of sediment and nutrient concentrations. Sample concentrations and corrected for discharge to determine sediment and nutrient loads. Water chemistry was measured with YSI instruments.

Channel surveys were also completed at each water quality sampling station. Biological sampling included periphyton, benthic macroinvertebrate, and fecal coliform. Biological samples were processed by subcontractors.

A draft report was completed to disseminate the results of the monitoring plan. Critical elements of the report included sediment and nutrient loading in the Stillwater River. Loading was linked to land use categories that defined three segments of the 44 mile sampling area.

The timeframe for the project covered several months. The sampling design was completed in the winter of 2002. Sampling commenced in March 2003 prior to the rising limb of the hydrograph. Sampling continued through November 2003. Data analysis and report writing took place through the winter of 2003. The draft report was submitted to DEQ in February 2004. The final report is expected to be completed by August 2004 following completion of the macroinvertebrate and periphyton analyses.

4.2.1.4 Staff Qualifications

RDG is led by professionals experienced in the watershed assessment, TMDL, WQRP, and restoration fields. The management team and employees are respected in their professions, hold multiple professional licenses, have completed advanced degrees and additional training in their areas of expertise, and combined, have over 35 years of professional work experience. RDG personnel who will work on this contract include hydrologists, a geomorphologist, a fisheries biologist, a professional engineer, a land surveyor, and hydrologic technicians. RDG's personnel have specialized training in applied river fluvial geomorphology, hydrology, and stream restoration. RDG also has select experience in wetland determination and delineation, and secondary experience in riparian wetland restoration projects. The following section includes summary statements for each of our employees. More comprehensive resumes are included in Appendix B.

Table 4.1. River Design Group, Inc. Staff Qualifications for Water Quality Monitoring Personnel.

EMPLOYEE	*EDUCATION*	*YEARS OF EXPERIENCE*	*SERVICE AREAS- YEARS OF RELATED EXPERIENCE*	*SPECIAL TRAINING*	*PROFESSIONAL REGISTRATION*
John Muhlfeld	B.S. Geoscience, Minor Env. Studies	10 years	10 years	- Wildland Hydrology - Wetland Det & Del	
Amy Beussink	M.S. Watershed Management B.S. Geoscience and Biology	5 years	5 years	- Wildland Hydrology - NRIS Water Module	
Troy Brandt	M.S. Env. Studies B.S. Env. Biology	7 years	7 years	- Wildland Hydrology - Wetland Det & Del	
Jonathan Ferree	M.S. Fluvial Geomorph. B.S. Geology/ Hydrology	5 years	5 years	- Wildland Hydrology	
Matt Daniels	B.S. Civil Engineering	12 years	5 years	- Wildland Hydrology - HEC Modeling	MT 15067 PE
Andrew Belski	A.A. Land Surveying	7 years	7 years		MT 14731 PLS
Ted Belcer	B.S. Env. Studies A.A. Land Surveying	4 years	4 years		
Michael Hannigan	B.S. Civil Engineering	2 years	2 years		
Justin Smith	B.S. Geology	2 years	2 years		

John Muhlfeld, Hydrologist, manages RDG's hydrology services section and is located in RDG's Whitefish Office. John has completed the suite (Levels I through IV) of courses offered by David Rosgen of Wildland Hydrology and has continuing education in geomorphology from the University of Indiana. In 10 years of professional experience, he has managed over 50 watershed related projects throughout western Montana while an employee with Land and Water Consulting, Water Consulting, and now as a principal in River Design Group. John supervises RDG's employees and ensures quality control throughout RDG's projects. John is instrumental in all phases of project development including assessment design, data collection, restoration project design, report completion, and construction oversight. John regularly provides stakeholder participation services through public meetings and presentations. He is regularly asked to present at regional conferences concerning restoration practices. John is a member of the American Water Resources Association (AWRA). John's role for this contract will be as a manager for projects in the Tobacco and Flathead Valleys. John will be the project manager and a key technical staff member for the Environmental Services contract.

Matt Daniels, PE, holds responsible charge of RDG's engineering works and is located in RDG's Whitefish Office. Matt has over 11 years of experience practicing hydraulic engineering and has participated in over 40 stream restoration and flood control projects. Matt is responsible for all aspects of design engineering for RDG's projects in Montana, Idaho, and Oregon. Matt's background in hydraulic and floodplain modeling using HEC-RAS, and AutoCAD expertise, are critical for the development of RDG's restoration designs. Matt has been involved in watershed assessments and stream restoration projects in the Lower Clark Fork drainage, Tobacco River drainage, the Flathead River drainage, Blackfoot River drainage, and the Bitterroot valley. Additionally, Matt has coordinated RDG's projects in the Clearwater River drainage in Idaho and the Upper Klamath Lake Basin in southern Oregon. Matt has successfully integrated traditional engineering techniques with natural channel design methods to deliver projects that are developed with engineering rigor, but that maximize fish habitat and permit natural channel processes.

Matt has established an engineering record with the National Council of Examiners for Engineering and Surveying, and is a licensed Professional Engineer in Montana, Idaho, Oregon, California, Utah and Nevada. Currently, Matt is a member of the American Society of Civil Engineers (ASCE). Also, he has completed the Level I and Level II courses offered by David Rosgen of Wildland Hydrology, Inc. Matt will be a key technical staff member for the General Services contract.

Troy Brandt, Fisheries Biologist, completed his masters degree at the University of Montana in 2000, and was employed by Water Consulting, Inc. prior to forming RDG with his three partners. He has completed the suite of courses offered by Mr. David Rosgen of Wildland Hydrology, and contributes to all aspects of RDG's watershed assessment and stream restoration services. Troy's application of natural channel design principles in numerous stream restoration projects make him uniquely qualified for pairing fisheries' requirements with restoration treatments. Troy has also completed training in wetland determination and delineation, wetland design, and wetland construction. Troy participates in all levels of restoration projects including data collection, data analysis, design, construction oversight, and monitoring. Troy is a member of the national, Montana, and Oregon chapters of the American Fisheries Society. Troy will be a project manager and a key technical staff member for the Environmental Services contract.

Amy Beussink, Hydrologist/GIS Specialist, provides RDG's clients with the unique skills of a GIS specialist with the knowledge of a hydrologist. Amy's broad background enables her to participate in all levels of hydrologic analysis and restoration design. RDG relies on Amy to collect, manage, and analyze watershed data from both remote sensing and on-the-ground perspectives. Her database management expertise allows her to efficiently summarize large datasets and gives RDG a powerful instrument for evaluating complex spatial and temporal data. Prior to joining RDG, Amy was employed by the Lolo National Forest. As a forest hydrologist, she was involved with TMDL development, NEPA assessments, and stream restoration and monitoring projects. Amy has completed the first three courses offered by Mr. David Rosgen of Wildland Hydrology, and has completed advanced training in hydrology, sediment modeling, GIS, and other remote sensing techniques. Amy will be a key technical staff member for the Environmental Services contract.

Jonathan Ferree, Fluvial Geomorphologist, will be involved with all aspects of water quality monitoring and TMDL projects. Jonathan has extensive experience in hydrologic analysis, channel surveys, and data analysis and modeling. Following completion of his Masters degree in Fluvial Geomorphology from the University of Wyoming, he was employed by the US Forest Service prior to being a private contractor and then joining RDG. Jonathan's role for the Environmental Services contract will be as a key technical staff member.

And Belski, PLS, maintains responsible charge for RDG's surveying and mapping services and is located in RDG's Whitefish Office. Andy has over 10 years of experience in applied surveying and computer aided design, and has participated in over 40 stream and watershed projects. Andy is a principal and integral member of the RDG restoration team. Andy's expertise in land survey, remote sensing techniques (e.g. AutoCAD, DIME software), and time-trend aerial imagery production is an essential tool in RDG's ability to assess river corridor alterations over time and spatial. Andy is licensed to practice land surveying in Montana and Idaho, and is a current member of the American Congress of Surveying and Mapping (ASCM). For this project Andy is available for consultation related to property boundary, easement and Environmental land

surveying issues that may affect project implementation. Andy will manage all survey components for awarded projects. His participation will also be critical for design plan set development and construction layout.

Ted Belcer, Hydrologic Technician/Survey Technician, is an important member of RDG's land survey and hydrology teams. Ted has participated in over a dozen restoration projects as a survey crew leader. Ted's AutoCAD skills enable him to assist RDG's engineer and land surveyor in drafting design plan sets and typical drawings. He also assists in remote sensing tasks and hydrologic data processing. Ted will assist in data collection, data management, and supporting key technical staff members.

Justin Smith, Hydrologic Technician, is a hydrologic technician with RDG, with primary duties focused on field data collection and analysis. Having recently completed his undergraduate program at the University of Montana, Justin gained valuable hands-on experience assisting MFWP and graduate students with stream restoration projects in the Upper Clark Fork Drainage. Justin will provide support to the RDG professionals by completing project tasks including data acquisition and data entry, GIS data organization, reviewing existing reports, and report preparation. Justin's past internship experiences in addition to his educational background will make him a valuable contributor to the RDG effort.

In summary, RDG offers a diverse multidisciplinary team with extensive water quality and channel monitoring experience. Academic coursework, professional training, and continuously learning from our projects, has provided our team with a unique understanding of rivers. We provide this knowledge base to our clientele in every project RDG undertakes. More detailed resumes are included in Appendix B. RDG's personnel meet the educational requirements specified for the Water Quality Monitoring service areas.

4.2.2 Water Quality Monitoring – Lakes and Streams

RDG has completed multiple projects requiring the types of skills outlined in the Water Quality Monitoring – Lakes and Streams Service Area. RDG employs standard US Forest Service and US Geological Survey methodologies for collecting water chemistry samples, suspended sediment and bedload samples, and surveying channel morphology, floodplain, and watershed characteristics. RDG's professionals have either completed or attended the suite of hydrology courses offered by Wildland Hydrology. RDG regularly completes Rosgen Level II through Level IV surveys depending on project objectives. RDG is experienced in the proper collection, sample processing, and data management for complex sampling plans that collect physical, chemical, and biological data. RDG typically combines standard sampling collecting techniques with state of the art remote sensing and GIS methods to evaluate measured attributes in a watershed context.

4.2.2.1 References

Please refer to Section 4.2.1.1 References for a summary of example water quality sampling project completed by RDG.

4.2.2.2 Company Profile and Experience

Please refer to Section 4.2.1.2 Company Profile and Experience for RDG's profile and relative experience regarding water quality sampling.

4.2.2.3 Method of Providing Services & Quality Assurance

Please refer to Section 4.2.1.3 Method of Providing Services & Quality Assurance for a description of RDG's work plan and the methods that RDG uses to complete chemical, physical, and biological monitoring. RDG employs standard USFS and USGS survey methods for evaluating channel morphology, sediment and nutrient transport, and pollutant source evaluations. RDG employs standard USEPA methods for water quality sampling and pollutant source evaluations. RDG employs State of Montana and private contractor (State approved) methods for collecting, processing, and evaluating biological samples.

4.2.2.4 Staff Qualifications

Please refer to Section 4.2.1.4 Staff Qualifications for the RDG personnel who will be assigned to participate in the Water Quality Monitoring – Lakes and Streams service area. RDG's personnel meet the educational requirements specified for the Water Quality Monitoring service areas. Personnel and equipment rates are also included in Section 4.2.1.4. Detailed resumes are included in Appendix B.

4.2.3 Water Quality Monitoring – Reference Sites

RDG would employ similar water quality monitoring, channel survey, and remote sensing/GIS techniques for completing projects included in the Water Quality Monitoring – Reference Sites service area as previously outlined in the other two water quality monitoring service areas. RDG employs standard US Forest Service and US Geological Survey methodologies for collecting water chemistry samples, suspended sediment and bedload samples, and surveying channel morphology, floodplain, and watershed characteristics. RDG's professionals have either completed or attended the suite of hydrology courses offered by Wildland Hydrology. RDG regularly completes Rosgen Level II through Level IV surveys depending on project objectives. RDG is experienced in the proper collection, sample processing, and data management for complex sampling plans that collect physical, chemical, and biological data. RDG typically combines standard sampling collecting techniques with state of the art remote sensing and GIS methods to evaluate measured attributes in a watershed context. RDG maintains a reference reach database that is used for channel departure analysis, restoration designs, and restoration project prioritization.

4.2.3.1 References

Please refer to Section 4.2.1.1 References for a summary of example water quality sampling project completed by RDG.

4.2.3.2 Company Profile and Experience

Please refer to Section 4.2.1.2 Company Profile and Experience for RDG's profile and relative experience regarding water quality sampling.

4.2.3.3 Method of Providing Services & Quality Assurance

Please refer to Section 4.2.1.3 Method of Providing Services & Quality Assurance for a description of RDG's work plan and the methods that RDG uses to complete chemical, physical, and biological monitoring. RDG employs standard USFS and USGS survey methods for evaluating channel morphology, sediment and nutrient transport, and pollutant source evaluations. RDG employs standard USEPA methods for water quality sampling and pollutant source evaluations. RDG employs State of Montana and private contractor (State approved) methods for collecting, processing, and evaluating biological samples.

4.2.3.4 Staff Qualifications

Please refer to Section 4.2.1.4 Staff Qualifications for the RDG personnel who will be assigned to participate in the Water Quality Monitoring – Reference Sites service area. RDG's personnel meet the educational requirements specified for the Water Quality Monitoring service areas. Personnel and equipment rates are also included in Section 4.2.1.4. Detailed resumes are included in Appendix B.

4.2.4 TMDL Targets

RDG is currently working with DEQ on several TMDLs including plans for the Stillwater River, Prospect Creek, Grave Creek, and the Tobacco River. RDG is in the planning stages or has completed watershed assessments that may proceed to TMDL development on Pilgrim Creek and Graves Creek. RDG works closely with DEQ's TMDL program personnel to evaluate sediment and nutrient loading, aquatic habitat and channel morphology measures, and biological measures. RDG employs both traditional sampling methods and innovative remote sensing techniques to characterize channel, floodplain, and watershed conditions. RDG employs standard US Forest Service and US Geological Survey methodologies for ground surveys and water quality monitoring. RDG's professionals have either completed or attended the suite of hydrology courses

offered by Wildland Hydrology. RDG regularly completes Rosgen Level II through Level IV surveys depending on specific project objectives. RDG's newest employee, Amy Beussink, is a respected GIS analyst and has added a powerful tool to RDG analytical toolbox. With Amy's experience in data management and GIS, RDG is able to efficiently evaluate spatial data and investigate complex relationships among the data. This high level analysis is necessary for assisting DEQ with establishing TMDL targets and determining the Water Quality Impairment Status of Montana's streams.

4.2.4.1 References

RDG is currently engaged in four TMDL plans for streams in the Lower Clark Fork, the Flathead Valley, and the Tobacco Valley. The following projects highlight these four TMDL plans and also include an additional watershed assessment project that will likely proceed to the development of a TMDL plan for Pilgrim Creek.

Project Name: Stillwater River Clean Sediment TMDL

Company:	River Design Group, Inc. and Water Consulting, Inc.
Client:	Montana Department of Environmental Quality Flathead Basin Commission
Project Location:	Stillwater River near Kalispell, Montana
Project Contact:	Mr. George Mathieus, DEQ
Phone:	(406) 444-7423
Completion Date:	2002 - 2004

Project Description: RDG and RDG's principals while with Water Consulting, Inc. completed a Phase 1 and are in the process of completing a Phase 2 TMDL for the Stillwater River. The Phase 1 tasks included a general watershed characterization and review of existing data and reports. Phase 2 consisted of a rigorous water quality sampling and analysis plan with 9 fixed monitoring stations that were sampled over 7 sampling periods. Sampling included discharge calculations, water quality sampling (nutrients and chemistry), suspended sediment sampling, periphyton and aquatic macroinvertebrate sampling, and channel morphology analysis. Statistical analyses were completed for nutrient and sediment concentrations. Nutrient and sediment loading rates were also calculated and linked to coarse land use classifications within the basin. A draft Phase 2 report has been submitted for review to DEQ and the project sponsors. Phase 3 will include development of load targets and load allocation for the basin. Applicable services required for the project included:

- Water quality monitoring
- TMDL source assessment, analysis, load calculations
- Statistical analysis
- Technical writing/editing
- GIS and remote sensing

Project Staff	Members Project Tasks
John Muhlfeld	Data Collection, Physical Assessment, Reporting
Troy Brandt	Project Management, Biological Assessment, Statistical Analysis Determination, Load Calculations, Target Development
Ted Belcer	Water Quality Monitoring
Jonathan Ferree	Water Quality Monitoring, Remote Sensing, Statistical Analysis
Amy Beussink	GIS Analysis

Project Name: Grave Creek Water Quality Restoration Plan and TMDL

Company:	River Design Group, Inc.

Client: Kootenai River Network Montana Department of Environmental Quality
Project Location: Grave Creek near Eureka, Montana
Project Contact: Mr. Dean Yashan
Phone: (406) 444-5317
Completion Date: On-going

Project Description: MDEQ in conjunction with the Kootenai River Network contracted River Design Group, Inc. to initiate development of the Grave Creek Phase 1 TMDL and Water Quality Restoration Plan. Identified as the most important bull trout spawning tributary in the Upper Kootenai River Drainage of Montana, Gave Creek has been impacted by a variety of land-use practices and natural processes. RDG is in the process of completing preliminary assessment work including documentation of bank erosion and riparian health indicators, focused source assessments, and evaluation of channel stability and morphology. Applicable services required for the initial planning phase of the project include:

- Channel, floodplain, and watershed evaluations (Rosgen Level IV)
- TMDL source assessment and delineation
- TMDL impairment determination and target development
- GIS analysis and remote sensing
- Database normalization
- Technical writing/editing
- Stakeholder participation

Project Staff	Members Project Tasks
John Muhlfeld	Geomorphology Assessment, Reporting
Troy Brandt	Biological Assessment, Analysis, Loading Determination, Target Development
Amy Beussink	GIS Analysis, Database Normalization, Load Calculations, Reporting
Jonathan Ferree	Source Assessments, Remote Sensing
Andy Belski	Remote Sensing

Project Name: Pilgrim Creek Water Quality Restoration Plan and TMDL

Company: River Design Group, Inc.
Client: Pilgrim Creek Watershed Council
Project Location: Pilgrim Creek near Trout Creek, Montana
Project Contact: Mr. Mike Miller
Phone: (406) 847-5560
Completion Date: 2004

Project Description: RDG collaborated with USFS on an Avista funded project to assess the existing conditions of the Pilgrim Creek watershed. Project tasks included evaluating upland, floodplain, riparian, and channel conditions throughout the Pilgrim Creek watershed. RDG focused on the privately owned portion of the watershed, and USFS evaluated the publicly owned headwaters of the watershed. GIS data analyses were completed by USFS and RDG to illustrate stream types, sediment sources, survey locations, and the road network. RDG and USFS completed a sediment source inventory for the watershed and identified restoration opportunities. RDG proposed several conceptual restoration treatments for unstable stream sections that contribute substantial sediment to the stream network. RDG will continue to collaborate with USFS and Montana Department of Environmental Quality to develop a total maximum daily load (TMDL) plan for the Pilgrim Creek watershed. Applicable services required for the project include:

- Channel and floodplain morphology surveys
- TMDL source assessment and analysis
- Statistical analysis
- Technical writing/editing

• GIS and remote sensing

Project Staff	Members Project Tasks
Troy Brandt	Project Manager, Data Collection, Analysis, Reporting
Jonathan Ferree	TMDL Source Assessment, Channel Morphology Data Collection, Statistical Analysis
Amy Beussink	GIS Analysis
Andy Belski	Remote Sensing

4.2.4.2 Company Profile and Experience

River Design Group, Inc. is an environmental consulting firm offering hydrology, fisheries, hydrographic surveying, and hydraulic engineering services to private and public entities throughout the Pacific Northwest. Established in August 2003, RDG's principals worked together for Water Consulting, Inc., formerly based in Hamilton, Montana. Since founding RDG, additional professional and technician-level employees have been hired to expand the company's expertise. With offices in Whitefish, Montana and Portland, Oregon, RDG employs a skilled, professional staff with over 35 years of consulting experience. RDG believes that working with natural river systems requires teamwork among multiple professions. As such, the founding principals of RDG have degrees in hydrology, biology, land surveying (hydrographic emphasis) and civil engineering. RDG is committed to providing timely, cost-efficient products and services to local and regional clients.

RDG is uniquely qualified to provide technical consulting services for the service areas outlined in the General Services request for proposals. RDG employs innovative data collection, assessment, and restoration design services based on both traditional and state-of-the-art methods. RDG professionals have completed extensive natural resources training programs to complement their academic backgrounds. To remain current with contemporary environmental analysis practices, RDG employees complete annual training with renowned practitioners in resource assessment and restoration fields. With this foundation, RDG's techniques are continuously evolving in response to new, and more efficient methods for collecting information, assessing, and monitoring watershed and water quality conditions.

RDG's professionals have been involved in all components of Total Maximum Daily Load Plan and Water Quality Management Plan development. RDG's professionals have extensive experience in applying the Rosgen Stream Classification System. Two of RDG's principals have completed the suite of Wildland Hydrology's stream restoration classes, a third principal has completed two courses, and RDG's GIS analyst/hydrologist will be completing the last course this fall. RDG regularly applies these techniques and other US Forest Service and US Geological Survey methods for stream assessment and restoration projects.

4.2.4.3 Method of Providing Services & Quality Assurance

RDG is collaborating with DEQ and the Kootenai River Network (KRN) to complete a TMDL plan for Grave Creek near Eureka, Montana. Grave Creek is a critical bull trout stream in the Kootenai River watershed and has been affected by historical and contemporary land use practices. RDG initiated TMDL planning in September 2003 by meeting with DEQ, KRN, and the USFS to establish the scope of work and contract for the TMDL. Data for the TMDL was largely provided by USFS and MFWP, RDG supplemented the existing data set with an erosion source assessment. Field data collection was completed by November 2003. Data analysis, remote sensing, and GIS analysis were completed by February 2004. The comprehensive GIS analysis investigated linkages among land uses, land type associations, riparian buffers, and aquatic habitat metrics.

Working with DEQ, RDG established methodologies for evaluating sediment loading from bank erosion, mass wasting, and riparian sites. With road surface erosion data provided by USFS, RDG formulated total sediment loads by land use type for main stem Grave Creek and the six primary tributaries in the watershed.

RDG proposed using water quality targets based on aquatic habitat metrics, channel morphology, and sediment load characteristics based on reference data from within and outside of the basin. Targets based on intra-basin reference data included pools per mile, large woody debris, and percent surface fines. Targets

based on out-of-basin reference data included pools per mile and large woody debris distributions. Out-of-basin targets were derived from USFS reference data collected in the Salmon River watershed in Idaho, and from USFS reference data collected on the Kootenai National Forest near Libby, Montana.

RDG is currently evaluating the TMDL targets with DEQ and expect to have the final report produced by August 2004. The short project schedule and the involvement of multiple agencies required close project coordination and open communication. From the Grave Creek TMDL project, RDG has established a valuable relationship with DEQ.

4.2.4.4 Staff Qualifications

RDG is led by professionals experienced in the watershed assessment, TMDL, WQRP, and restoration fields. The management team and employees are respected in their professions, hold multiple professional licenses, have completed advanced degrees and additional training in their areas of expertise, and combined, have over 35 years of professional work experience. RDG personnel who will work on this contract include hydrologists, a geomorphologist, a fisheries biologist, a professional engineer, a land surveyor, and hydrologic technicians. RDG's personnel have specialized training in applied river fluvial geomorphology, hydrology, and stream restoration. RDG also has select experience in wetland determination and delineation, and secondary experience in riparian wetland restoration projects. The following section includes summary statements for each of our employees. More comprehensive resumes are included in Appendix B.

Table 4.2. River Design Group, Inc. Staff Qualifications for TMDL Personnel.

EMPLOYEE	*EDUCATION*	*YEARS OF EXPERIENCE*	*SERVICE AREAS-YEARS OF RELATED EXPERIENCE*	*SPECIAL TRAINING*	*PROFESSIONAL REGISTRATION*
John Muhlfeld	B.S. Geoscience, Minor Env. Studies	10 years	10 years	- Wildland Hydrology - Wetland Det & Del	
Amy Beussink	M.S. Watershed Management B.S. Geoscience and Biology	5 years	5 years	- Wildland Hydrology - NRIS Water Module - Multi-spectral Image Processing	
Troy Brandt	M.S. Env. Studies B.S. Env. Biology	7 years	7 years	- Wildland Hydrology - Wetland Det & Del	
Jonathan Ferree	M.S. Fluvial Geomorph. B.S. Geology/ Hydrology	5 years	5 years	- Wildland Hydrology	
Andrew Belski	A.A. Land Surveying	7 years	7 years		MT 14731 PLS

Ted Belcer	B.S. Env. Studies A.A. Land Surveying	4 years	4 years		
Michael Hannigan	B.S. Civil Engineering	2 years	2 years		
Justin Smith	B.S. Geology	2 years	2 years		

John Muhlfeld, Hydrologist, manages RDG's hydrology services section and is located in RDG's Whitefish Office. John has completed the suite (Levels I through IV) of courses offered by David Rosgen of Wildland Hydrology and has continuing education in geomorphology from the University of Indiana. In 10 years of professional experience, he has managed over 50 watershed related projects throughout western Montana while an employee with Land and Water Consulting, Water Consulting, and now as a principal in River Design Group. John supervises RDG's employees and ensures quality control throughout RDG's projects. John is instrumental in all phases of project development including assessment design, data collection, restoration project design, report completion, and construction oversight. John regularly provides stakeholder participation services through public meetings and presentations. He is regularly asked to present at regional conferences concerning restoration practices. John is a member of the American Water Resources Association (AWRA). John's role for this contract will be as a manager for projects in the Tobacco and Flathead Valleys. John will be the project manager and a key technical staff member for the Environmental Services contract.

Matt Daniels, PE, holds responsible charge of RDG's engineering works and is located in RDG's Whitefish Office. Matt has over 11 years of experience practicing hydraulic engineering and has participated in over 40 stream restoration and flood control projects. Matt is responsible for all aspects of design engineering for RDG's projects in Montana, Idaho, and Oregon. Matt's background in hydraulic and floodplain modeling using HEC-RAS, and AutoCAD expertise, are critical for the development of RDG's restoration designs. Matt has been involved in watershed assessments and stream restoration projects in the Lower Clark Fork drainage, Tobacco River drainage, the Flathead River drainage, Blackfoot River drainage, and the Bitterroot valley. Additionally, Matt has coordinated RDG's projects in the Clearwater River drainage in Idaho and the Upper Klamath Lake Basin in southern Oregon. Matt has successfully integrated traditional engineering techniques with natural channel design methods to deliver projects that are developed with engineering rigor, but that maximize fish habitat and permit natural channel processes.

Matt has established an engineering record with the National Council of Examiners for Engineering and Surveying, and is a licensed Professional Engineer in Montana, Idaho, Oregon, California, Utah and Nevada. Currently, Matt is a member of the American Society of Civil Engineers (ASCE). Also, he has completed the Level I and Level II courses offered by David Rosgen of Wildland Hydrology, Inc. Matt will be a key technical staff member for the General Services contract.

Troy Brandt, Fisheries Biologist, completed his masters degree at the University of Montana in 2000, and was employed by Water Consulting, Inc. prior to forming RDG with his three partners. He has completed the suite of courses offered by Mr. David Rosgen of Wildland Hydrology, and contributes to all aspects of RDG's watershed assessment and stream restoration services. Troy's application of natural channel design principles in numerous stream restoration projects make him uniquely qualified for pairing fisheries' requirements with restoration treatments. Troy has also completed training in wetland determination and delineation, wetland design, and wetland construction. Troy participates in all levels of restoration projects including data collection, data analysis, design, construction oversight, and monitoring. Troy is a member of the national, Montana, and Oregon chapters of the American Fisheries Society. Troy will be a project manager and a key technical staff member for the Environmental Services contract.

Amy Beussink, Hydrologist/GIS Specialist, provides RDG's clients with the unique skills of a GIS specialist with the knowledge of a hydrologist. Amy's broad background enables her to participate in all levels of hydrologic analysis and restoration design. RDG relies on Amy to collect, manage, and analyze watershed data from both remote sensing and on-the-ground perspectives. Her database management expertise allows her to efficiently summarize large datasets and gives RDG a powerful instrument for evaluating complex spatial

and temporal data. Prior to joining RDG, Amy was employed by the Lolo National Forest. As a forest hydrologist, she was involved with TMDL development, NEPA assessments, and stream restoration and monitoring projects. Amy has completed the first three courses offered by Mr. David Rosgen of Wildland Hydrology, and has completed advanced training in hydrology, sediment modeling, GIS, and other remote sensing techniques. Amy will be a key technical staff member for the Environmental Services contract.

Jonathan Ferree, Fluvial Geomorphologist, will be involved with all aspects of water quality monitoring and TMDL projects. Jonathan has extensive experience in hydrologic analysis, channel surveys, and data analysis and modeling. Following completion of his Masters degree in Fluvial Geomorphology from the University of Wyoming, he was employed by the US Forest Service prior to being a private contractor and then joining RDG. Jonathan's role for the Environmental Services contract will be as a key technical staff member.
Andy Belski, PLS, maintains responsible charge for RDG's surveying and mapping services and is located in RDG's Whitefish Office. Andy has over 10 years of experience in applied surveying and computer aided design, and has participated in over 40 stream and watershed projects. Andy is a principal and integral member of the RDG restoration team. Andy's expertise in land survey, remote sensing techniques (e.g. AutoCAD, DIME software), and time-trend aerial imagery production is an essential tool in RDG's ability to assess river corridor alterations over time and spatial. Andy is licensed to practice land surveying in Montana and Idaho, and is a current member of the American Congress of Surveying and Mapping (ASCM). For this project Andy is available for consultation related to property boundary, easement and Environmental land surveying issues that may affect project implementation. Andy will manage all survey components for awarded projects. His participation will also be critical for design plan set development and construction layout.

Ted Belcer, Hydrologic Technician/Survey Technician, is an important member of RDG's land survey and hydrology teams. Ted has participated in over a dozen restoration projects as a survey crew leader. Ted's AutoCAD skills enable him to assist RDG's engineer and land surveyor in drafting design plan sets and typical drawings. He also assists in remote sensing tasks and hydrologic data processing. Ted will assist in data collection, data management, and supporting key technical staff members.

Justin Smith, Hydrologic Technician, is a hydrologic technician with RDG, with primary duties focused on field data collection and analysis. Having recently completed his undergraduate program at the University of Montana, Justin gained valuable hands-on experience assisting MFWP and graduate students with stream restoration projects in the Upper Clark Fork Drainage. Justin will provide support to the RDG professionals by completing project tasks including data acquisition and data entry, GIS data organization, reviewing existing reports, and report preparation. Justin's past internship experiences in addition to his educational background will make him a valuable contributor to the RDG effort.

In summary, RDG offers a diverse multidisciplinary team with extensive watershed assessment, TMDL development, and restoration experience. Academic coursework, professional training, and continuously learning from our projects, has provided our team with a unique understanding of rivers. We provide this knowledge base to our clientele in every project RDG undertakes. More detailed resumes are included in Appendix B. RDG's personnel meet the educational requirements specified for the TMDL-related service areas.

4.2.5 TMDL Source Assessment/Delineation

RDG is currently working with DEQ on several TMDLs including plans for the Stillwater River, Prospect Creek, Grave Creek, and the Tobacco River. RDG is in the planning stages or has completed watershed assessments that may proceed to TMDL development on Pilgrim Creek and Graves Creek. RDG works closely with DEQ's TMDL program personnel to evaluate sediment and nutrient loading, aquatic habitat and channel morphology measures, and biological measures.

RDG employs both field-based surveys and remote sensing to evaluate pollutant loading and aquatic habitat conditions relative to land uses within a focus watershed. RDG's GIS analyst, Amy Beussink, is instrumental in organizing, querying, and summarizing data. GIS is a critical tool for statistically analyzing data and investigating linkages among land uses, source locations, and waterbody impairment. RDG uses these techniques to assist DEQ in identifying major causes of impairment in a watershed.

RDG has previously prepared benefit/cost analyses for addressing significant pollutant sources. Benefit/cost analyses necessitate a comparison of pollutant source loading and the cost of ameliorating the particular source. By prioritizing pollutant sources for BMP implementation, RDG provides DEQ with a cost effective plan for addressing pollutant loading for an impaired waterbody. RDG relies on close collaboration with DEQ and other stakeholders for prioritizing pollutant source treatments.

4.2.5.1 References

Please refer to Section 4.2.4.1 References for a summary of example TMDL planning projects in which RDG is currently involved.

4.2.5.2 Company Profile and Experience

Please refer to Section 4.2.4.2 Company Profile and Experience for RDG's profile and relative experience regarding TMDL-related service areas.

4.2.5.3 Method of Providing Services & Quality Assurance

Please refer to Section 4.2.4.3 Method of Providing Services & Quality Assurance for a description of RDG's work plan and the methods that RDG uses to complete TMDL-related service area tasks. RDG employs standard USFS and USGS survey methods for quantifying pollutant sources. RDG applies other modified field techniques (e.g. bank erosion hazard index) to augment pollutant source assessments and delineations. RDG employs GIS and remote sensing for cost effectively assessing large areas and coarse land use patterns.

4.2.5.4 Staff Qualifications

Please refer to Section 4.2.4.4 Staff Qualifications for the RDG personnel who will be assigned to participate in the TMDL-related service areas. RDG's personnel meet the educational requirements specified for the TMDL-related service areas. Personnel and equipment rates are also included in Section 4.2.4.4. Detailed resumes are included in Appendix B.

4.2.6 TMDL Load Allocations

RDG is currently working with DEQ on several TMDLs including plans for the Stillwater River, Prospect Creek, Grave Creek, and the Tobacco River. RDG is in the planning stages or has completed watershed assessments that may proceed to TMDL development on Pilgrim Creek and Graves Creek. RDG works closely with DEQ's TMDL program personnel to evaluate sediment and nutrient loading, aquatic habitat and channel morphology measures, and biological measures.

RDG employs both field-based surveys and remote sensing to evaluate pollutant loading and aquatic habitat conditions relative to land uses within a focus watershed. For two on-going projects, RDG has prepared load allocations for the Stillwater River and Grave Creek. The methods for allocating loads for these two watershed varied due to budgetary constraints. RDG completed a detailed water quality monitoring plan for the Stillwater River whereby water samples were collected over the course of the river's hydrograph. Samples were measured to determine suspended sediment and nutrient concentrations. Sediment and nutrient loads were allocated according to three reaches of the river that were categorized by broad land use categories.

The second TMDL planning project on Grave Creek required less data collection since a substantial dataset had been established by USFS. For Grave Creek, pollutant loads were determined from existing data, modeling, and additional field data collection. Although an additional channel survey effort was not necessary, remote sensing, GIS, and erosion models (e.g. WEPP Road module) were critical for determining natural source-related sediment loading and loading linked to human land use effects. These two projects exemplify the range of RDG's skills in evaluating TMDL loads and allocations.

4.2.6.1 References

Please refer to Section 4.2.4.1 References for a summary of example TMDL planning projects in which RDG is currently involved.

4.2.6.2 Company Profile and Experience

Please refer to Section 4.2.4.2 Company Profile and Experience for RDG's profile and relative experience regarding TMDL-related service areas.

4.2.6.3 Method of Providing Services & Quality Assurance

Please refer to Section 4.2.4.3 Method of Providing Services & Quality Assurance for a description of RDG's work plan and the methods that RDG uses to complete TMDL-related service area tasks.

4.2.6.4 Staff Qualifications

Please refer to Section 4.2.4.4 Staff Qualifications for the RDG personnel who will be assigned to participate in the TMDL-related service areas. RDG's personnel meet the educational requirements specified for the TMDL-related service areas. Personnel and equipment rates are also included in Section 4.2.4.4. Detailed resumes are included in Appendix B.

4.2.7 Total Maximum Daily Loads

RDG is currently working with DEQ on several TMDLs including plans for the Stillwater River, Prospect Creek, Grave Creek, and the Tobacco River. RDG is in the planning stages or has completed watershed assessments that may proceed to TMDL development on Pilgrim Creek and Graves Creek. RDG works closely with DEQ's TMDL program personnel to evaluate sediment and nutrient loading, aquatic habitat and channel morphology measures, and biological measures.

RDG is in the process of completing several TMDL plans that will require development of TMDLs. RDG has not completed the allocation of wasteloads to point sources, non-point sources, and natural background sources with a margin of safety considering seasonal variation. RDG expects to complete this phase of TMDL planning for at least two projects in 2004.

4.2.7.1 References

Please refer to Section 4.2.4.1 References for a summary of example TMDL planning projects in which RDG is currently involved.

4.2.7.2 Company Profile and Experience

Please refer to Section 4.2.4.2 Company Profile and Experience for RDG's profile and relative experience regarding TMDL-related service areas.

4.2.7.3 Method of Providing Services & Quality Assurance

Please refer to Section 4.2.4.3 Method of Providing Services & Quality Assurance for a description of RDG's work plan and the methods that RDG uses to complete TMDL-related service area tasks.

4.2.7.4 Staff Qualifications

Please refer to Section 4.2.4.4 Staff Qualifications for the RDG personnel who will be assigned to participate in the TMDL-related service areas. RDG's personnel meet the educational requirements specified for the TMDL-

related service areas. Personnel and equipment rates are also included in Section 4.2.4.4. Detailed resumes are included in Appendix B.

4.2.8 Stakeholder Participation

RDG is currently working with DEQ on several TMDLs including plans for the Stillwater River, Prospect Creek, Grave Creek, and the Tobacco River. Each of these planning areas require close collaboration with all involved stakeholders in order to facilitate data sharing, discussion of methodologies, and eventual implementation of BMP, restoration strategies, and monitoring plans.

RDG's principals are experienced in facilitating stakeholder discussions from their past work with private landowners and agency personnel in the stream restoration field. RDG approaches stakeholder discussions from an inclusive perspective that strives to bring all stakeholders into the discussion early in the planning process. Open communication throughout the planning period is essential to addressing stakeholder concerns and desires.

RDG's professional staff frequently participates in stakeholder (public and government) meetings and forums. Since the inception of the TMDL program, staff members have attended numerous public and interagency stakeholder meetings and provided formal presentations. RDG professionals are adept at presenting what is oftentimes perceived as highly technical information in a manner that is well grasped by a broad spectrum of the public. We feel that the ability to communicate effectively to the public and all stakeholders is critical to implementing water quality restoration projects.

4.2.8.1 References

Please refer to Section 4.2.4.1 References for a summary of example TMDL planning projects in which RDG is currently involved. Each of the included projects has required stakeholder participation. We anticipate that private landowner participation will increase as TMDL draft reports are finalized and released for public review.

4.2.8.2 Company Profile and Experience

Please refer to Section 4.2.4.2 Company Profile and Experience for RDG's profile and relative experience regarding TMDL-related service areas.

4.2.8.3 Method of Providing Services & Quality Assurance

Please refer to Section 4.2.4.3 Method of Providing Services & Quality Assurance for a description of RDG's work plan and the methods that RDG uses to complete TMDL-related service area tasks.

4.2.8.4 Staff Qualifications

RDG will assign three professionals to be involved in stakeholder participation. John Muhlfeld directs RDG's hydrology and TMDL program and has extensive experience working with involved stakeholders on TMDL and stream restoration projects. Mr. Muhlfeld is frequency requested by state agencies, watershed groups, and interest groups to present information on restoration practices and assessment techniques. Troy Brandt will be a key technical staff member who will be assigned to work with involved stakeholders. Mr. Brandt has worked with private residents and government agency personnel on watershed assessments and TMDL plans. Amy Beussink will be the third key technical staff member assigned to participate in stakeholder discussions. Ms. Beussink, who was formerly employed by USFS, has developed valuable relationships with USFS, DEQ, and MFWP.

Table 4.3. River Design Group, Inc. Staff Qualifications for Stakeholder Participation Personnel.

EMPLOYEE	*EDUCATION*	*YEARS OF EXPERIENCE*	*SERVICE AREAS- YEARS OF RELATED EXPERIENCE*	*SPECIAL TRAINING*	*PROFESSIONAL REGISTRATION*
John Muhlfeld	B.S. Geoscience, Minor Env. Studies	10 years	10 years	- Wildland Hydrology - Wetland Det & Del	
Amy Beussink	M.S. Watershed Management B.S. Geoscience and Biology	5 years	5 years	- Wildland Hydrology - NRIS Water Module	
Troy Brandt	M.S. Env. Studies B.S. Env. Biology	7 years	7 years	- Wildland Hydrology - Wetland Det & Del	

John Muhlfeld, Hydrologist, manages RDG's hydrology services section and is located in RDG's Whitefish Office. John has completed the suite (Levels I through IV) of courses offered by David Rosgen of Wildland Hydrology and has continuing education in geomorphology from the University of Indiana. In 10 years of professional experience, he has managed over 50 watershed related projects throughout western Montana while an employee with Land and Water Consulting, Water Consulting, and now as a principal in River Design Group. John supervises RDG's employees and ensures quality control throughout RDG's projects. John is instrumental in all phases of project development including assessment design, data collection, restoration project design, report completion, and construction oversight. John regularly provides stakeholder participation services through public meetings and presentations. He is regularly asked to present at regional conferences concerning restoration practices. John is a member of the American Water Resources Association (AWRA). John's role for this contract will be as a manager for projects in the Tobacco and Flathead Valleys. John will be the project manager and a key technical staff member for the Environmental Services contract.

Troy Brandt, Fisheries Biologist, completed his masters degree at the University of Montana in 2000, and was employed by Water Consulting, Inc. prior to forming RDG with his three partners. He has completed the suite of courses offered by Mr. David Rosgen of Wildland Hydrology, and contributes to all aspects of RDG's watershed assessment and stream restoration services. Troy's application of natural channel design principles in numerous stream restoration projects make him uniquely qualified for pairing fisheries' requirements with restoration treatments. Troy has also completed training in wetland determination and delineation, wetland design, and wetland construction. Troy participates in all levels of restoration projects including data collection, data analysis, design, construction oversight, and monitoring. Troy is a member of the national, Montana, and Oregon chapters of the American Fisheries Society. Troy will be a project manager and a key technical staff member for the Environmental Services contract.

Amy Beussink, Hydrologist/GIS Specialist, provides RDG's clients with the unique skills of a GIS specialist with the knowledge of a hydrologist. Amy's broad background enables her to participate in all levels of hydrologic analysis and restoration design. RDG relies on Amy to collect, manage, and analyze watershed data from both remote sensing and on-the-ground perspectives. Her database management expertise allows her to efficiently summarize large datasets and gives RDG a powerful instrument for evaluating complex spatial and temporal data. Prior to joining RDG, Amy was employed by the Lolo National Forest. As a forest hydrologist, she was involved with TMDL development, NEPA assessments, and stream restoration and monitoring projects. Amy has completed the first three courses offered by Mr. David Rosgen of Wildland Hydrology, and has completed advanced training in hydrology, sediment modeling, GIS, and other remote sensing techniques. Amy will be a key technical staff member for the Environmental Services contract.

RDG's personnel meet the educational requirements specified for the Stakeholder Participation service area. More detailed resumes are included in Appendix B.

4.2.9 TMDL Effectiveness Monitoring

RDG is experienced in collecting physical, chemical, and biological data for monitoring programs. Additionally, RDG has completed other projects that required data analysis and technical report writing to disseminate the results of the monitoring program.

4.2.9.1 References

Please refer to Section 4.2.4.1 References for a summary of example TMDL planning projects in which RDG is currently involved. Additional projects included in Section 4.2.1 Water Quality Monitoring – Fixed Station and Probabilistic Design also outlined monitoring techniques employed by RDG.

4.2.9.2 Company Profile and Experience

Please refer to Section 4.2.4.2 Company Profile and Experience for RDG's profile and relative experience regarding TMDL-related service areas.

4.2.9.3 Method of Providing Services & Quality Assurance

Please refer to Section 4.2.4.3 Method of Providing Services & Quality Assurance for a description of RDG's work plan and the methods that RDG uses to complete TMDL effectiveness monitoring. RDG employs standard USFS and USGS survey methods for evaluating channel stability, fish habitat conditions, pollutant concentrations and loading, and discharge. RDG also uses remote sensing and standard field survey techniques for evaluating riparian conditions.

4.2.9.4 Staff Qualifications

Please refer to Section 4.2.4.4 Staff Qualifications for the RDG personnel who will be assigned to participate in the TMDL-related service areas. RDG's personnel meet the educational requirements specified for the TMDL-related service areas. Personnel and equipment rates are also included in Section 4.2.4.4. Detailed resumes are included in Appendix B.

4.2.10 Geographic Information Systems (GIS) Services

4.2.10.1 References

RDG provides a full spectrum of GIS services including GIS database development, relational database development, mapping, spatial analyses and modeling, reporting, and cartographic production. GIS and relational databases are essential tools used by RDG to efficiently assess watershed conditions. GIS data is collected from a variety of sources and in many cases created from field data. Spatial analyses examine relationships of spatial variables across watersheds.

Please refer to Section 4.2.1.1 References for a summary of example projects that included GIS service tasks.

4.2.10.2 Company Profile and Experience

Please refer to Section 4.2.4.2 Company Profile and Experience for RDG's profile and relative experience regarding the GIS service area.

RDG owns licenses for ESRI's ArcGIS 9.0 and Spatial Analyst. Microsoft Access and Excel are also frequently used to combine, normalize, relate and analyze spatial data.

RDG collects existing GIS layers from various sources including Montana NRIS, Montana Fish Wildlife and Parks, the US Forest Service, the US Geological Survey, EROS Data Center and other sources. In addition, RDG creates new data layers from field data collected with location information in the form of GPS coordinates or associated location information from a DOQQ or georeferenced aerial photography.

RDG uses GIS and relational databases to characterize watershed, stream, fisheries, and riparian resources. Resource conditions may be spatially related to other attributes including land uses, ownership, soil types and sensitivity, geology, and vegetation cover. In addition to GIS library and relational database products, watershed characterizations and spatially related attributes are summarized and presented in the form of graphs, tables, maps, and reports.

4.2.10.3 Method of Providing Services & Quality Assurance

RDG is collaborating with DEQ and the Kootenai River Network (KRN) to complete a TMDL plan for Grave Creek near Eureka, Montana. RDG initiated TMDL planning in September 2003 by meeting with DEQ, KRN, and the USFS to establish the scope of work and contract for the TMDL. For the Grave Creek TMDL project, field data collection was completed by November 2003. Data analysis, remote sensing, and GIS analysis were completed by February 2004. The comprehensive GIS analysis investigated linkages among land uses, land type associations (LTAs), riparian buffers, and aquatic habitat metrics.

GIS layers were assembled from a variety of sources. Metadata were evaluated to determine data content, purpose, and suitability. All relevant and appropriate GIS layers were transformed to a common geographic coordinate system or projection. Analyses were conducted with the knowledge of varying degrees of mapping accuracy across input layers and field data.

Bank erosion sources, infrastructure such as bridges and irrigation ditches, and upland sediment sources were located using GPS coordinates collected in the field, or coordinates acquired from DOQQs or georeferenced aerial photography. Fish habitat data were provided by the USFS and spatially linked to the stream layer via linear referencing or “routes”. Sediment sources and fish habitat characteristics were spatially related to LTAs, land use, vegetation type and amount of cover, management history, and infrastructure influence. Analyses were summarized by stream, reach, and sub-watershed. All calculations and results were verified.

4.2.10.4 Staff Qualifications

Ms. Amy Beussink will coordinate RDG’s GIS service area.

Table 4.4. River Design Group, Inc. Staff Qualifications for GIS Services Personnel.

EMPLOYEE	*EDUCATION*	*YEARS OF EXPERIENCE*	*SERVICE AREAS-YEARS OF RELATED EXPERIENCE*	*SPECIAL TRAINING*
Amy Beussink	M.S. Watershed Management B.S. Geoscience and Biology	7 years	7 years	- Terrain Anlaysis using DEMs - Digital Image Processing - Wildland Hydrology - NRIS Water Module

Amy Beussink, Hydrologist/GIS Specialist, provides RDG’s clients with the unique skills of a GIS specialist with the knowledge of a hydrologist. Amy’s broad background enables her to participate in all levels of hydrologic analysis and restoration design. RDG relies on Amy to collect, manage, and analyze watershed

data from both remote sensing and on-the-ground perspectives. Her database management expertise allows her to efficiently summarize large datasets and gives RDG a powerful instrument for evaluating complex spatial and temporal data. Prior to joining RDG, Amy was employed by the Lolo National Forest. As a forest hydrologist, she was involved with TMDL development, NEPA assessments, and stream restoration and monitoring projects. Amy has completed the first three courses offered by Mr. David Rosgen of Wildland Hydrology, and has completed advanced training in hydrology, sediment modeling, GIS, and other remote sensing techniques. Amy will be a key technical staff member for the Environmental Services contract.

Ms. Beussink's resume is included in Appendix B. Ms. Beussink satisfies the educational requirements specified for the GIS Services service area.

4.2.11 Remote Sensing

4.2.11.1 References

RDG principals have completed numerous watershed assessment projects that required remote sensing. RDG uses a combination of AutoCAD and DIME® image rectification software to produce seamless rectified images from aerial photographs. These images are useful for calculating indicator metrics, field survey investigations, and conducting time trend analyses. RDG completed remote sensing tasks for the following projects. Remote sensing was typically used to evaluate channel, floodplain, and vegetation changes over time; to locate substantial sediment sources; and to assess infrastructure characteristics. RDG generally provides a copy of the produced photo book to the project sponsors and other interested agency personnel depending on project budget. Indicator field metrics may also be digitized into GIS to create attribute layers. RDG has the capability to link attributes to the National Hydrography Dataset (NHD) streams layer.

RDG has recently developed a relationship with Watershed Science, Inc. (WSI) based in Salem, Oregon, to participate in high level remote sensing. WSI has pioneered the monitoring and assessment applications of airborne remote sensing throughout the Western United States. WSI's innovative techniques will improve the efficiency of assessing large land areas as well as improving our understanding of vegetation patterns, stream thermal regimes, and sediment transport. RDG understands the State would need to approve of any subcontractor prior to initiating a contract.

Please refer to Section 4.2.1.1 References for a summary of example projects that included remote sensing tasks.

4.2.11.2 Company Profile and Experience

Please refer to Section 4.2.4.2 Company Profile and Experience for RDG's profile and relative experience regarding the Remote Sensing service area.

RDG utilizes remote sensing to achieve a wide range of project goals. RDG has built a reputation on its production of seamless, rectified aerial photograph book sets that are a critical component in assessing time trend watershed changes, pollutant source locations, and restoration opportunities. RDG employs a combination of AutoCAD and DIME software that allows RDG to mosaic, georeference, and/or color balance digital images. This ability is essential for reducing measurement error when quantifying channel, floodplain, and landscape attributes.

4.2.11.3 Method of Providing Services & Quality Assurance

RDG is collaborating with DEQ and the Kootenai River Network (KRN) to complete a TMDL plan for Grave Creek near Eureka, Montana. RDG initiated TMDL planning in September 2003 by meeting with DEQ, KRN, and the USFS to establish the scope of work and contract for the TMDL. Data for the TMDL were largely provided by USFS and MFWP, RDG supplemented the existing data set with an erosion source assessment. The erosion source assessment was completed using a combination of field surveys and remote sensing. Remote sensing included collecting two series of aerial photographs (1954 and 1997) to compare historical and recent watershed conditions. The individual contact sheets were scanned and "stitched" together using

AutoCAD. The photos were overlayed on Digital Ortho Quarter Quads (DOQQs) and rectified using DIME software. Photo rectification removes spatial distortion and permits the accurate measurement of landscape features. The rectified photos were then printed, laminated, and combined in an aerial photo book set.

With the book set, RDG identified mass wasting sites in upland and riparian areas. The sites were field checked using the aerial photo book set and more detailed measurements were completed. Source locations were then entered into the GIS system as an attribute layer. Sediment source locations were then compared to land use practices, aquatic habitat conditions, and percent surface fines measured in main stem Grave Creek and its tributaries.

On other projects, aerial photo book sets have also been used for evaluating channel plan form dimensions, riparian vegetation condition, and infrastructure locations and possible effects on the river corridor.

For the Grave Creek TMDL project, field data collection was completed by November 2003. Data analysis, remote sensing, and GIS analysis were completed by February 2004. The comprehensive GIS analysis investigated linkages among land uses, land type associations, riparian buffers, and aquatic habitat metrics.

4.2.11.4 Staff Qualifications

Please refer to Section 4.2.4.4 Staff Qualifications for the RDG personnel who will be assigned to participate in the Remote Sensing service area. RDG's personnel meet the educational requirements specified for the Remote Sensing service area. Personnel and equipment rates are also included in Section 4.2.4.4. Detailed resumes are included in Appendix B.

4.2.12 Water Quality Modeling

River Design Group will not be responding for the Water Quality Modeling service area.

4.2.13 Statistical Analysis

RDG regularly employs statistical analysis to evaluate large and complex data sets related to TMDL projects. These projects typically require managing spatial data in a database linked to a GIS system. To evaluate relationships with the dataset, RDG queries the dataset and analyzes the results. RDG uses a combination of Microsoft Access and Excel as well as SPSS for querying, summarizing, and statistically analyzing data. The level of statistical analyses employed by RDG vary from basic descriptive statistics to the development of multivariate models investigating the role of independent variables (e.g. land type associations) on environmental response variables (e.g. mass wasting locations).

4.2.13.1 References

Please refer to Section 4.2.1.1 References for a summary of example projects that included statistical analysis tasks. The most extensive statistical analyses have been completed for the Grave Creek TMDL and the Stillwater River Clean Sediment TMDL projects. Databases were erected for each of these projects. Field data and GIS data were entered into the respective databases. Data were queried to investigate relationships among environmental characteristics, land uses, and aquatic habitat conditions. Descriptive statistics were used to summarize the data.

4.2.13.2 Company Profile and Experience

Please refer to Section 4.2.4.2 Company Profile and Experience for RDG's profile and relative experience regarding the Statistical Analysis service area.

4.2.13.3 Method of Providing Services & Quality Assurance

RDG is collaborating with DEQ and the Kootenai River Network (KRN) to complete a TMDL plan for Grave Creek near Eureka, Montana. RDG initiated TMDL planning in September 2003 by meeting with DEQ, KRN,

and the USFS to establish the scope of work and contract for the TMDL. Data for the TMDL were largely provided by USFS and MFWP, RDG supplemented the existing data set with an erosion source assessment.

Remote sensing and field survey data were entered into an Access database linked to an ArcGIS project. Data were queried to develop descriptive statistics for variables including woody debris, pool distribution, road densities, pollutant source dimensions and land use linkages, and acres of forest activities. These variables and others were then analyzed to identify land use effects on pollutant sources and aquatic habitats.

For the Grave Creek TMDL project, field data collection was completed by November 2003. Data analysis, remote sensing, and GIS analysis were completed by February 2004. A draft TMDL document will be submitted for review by May 31, 2004. The final TMDL document will be completed by August 2004.

4.2.13.4 Staff Qualifications

Please refer to Section 4.2.4.4 Staff Qualifications for the RDG personnel who will be assigned to participate in the Statistical Analysis service area. Amy Beussink, John Muhlfeld, Troy Brandt, and Jonathan Ferree will be the primary personnel participating in the Statistical Analysis service area. RDG's personnel meet the educational requirements specified for the Statistical Analysis service area. Personnel and equipment rates are also included in Section 4.2.4.4. Detailed resumes are included in Appendix B.

4.2.14 Analytical Laboratory Services

River Design Group will not be responding for the Analytical Laboratory Services service area.

4.2.15 DEQ Electronic Data/Information Technical Assistance

4.2.15.1 References

RDG has the knowledge and capability of providing technical assistance to DEQ regarding conversion, compilation and normalization of electronic data, including migrating data from a variety of sources into the new STORET database. RDG's GIS specialist has extensive experience converting, formatting and normalizing data from a variety of sources into single, logical datasets using Microsoft Access and Excel, and has a working knowledge of the SQL interface found in Microsoft Access. In addition, RDG's GIS specialist has extensive experience in validating normalized datasets for completeness and logical consistency. RDG's GIS specialist is also familiar with Oracle databases and Visual Basic for Applications.

Please refer to Section 4.2.1.1 References for a summary of example projects that included data normalizing and database mangement tasks.

4.2.15.2 Company Profile and Experience

RDG's GIS specialist has converted, formatted and normalized data from a variety of sources into a single database for several projects. Clients have included the US Navy, Montana DEQ, and the USFS. Ms. Beussink assembled and normalized wildlife observation data collected using a variety of methods into a single relational database for the US Navy. The database was designed to be used by personnel at the Naval Base to assess and manage natural resources including several sensitive species. In various TMDL efforts, Ms. Beussink has worked for the USFS and Montana DEQ to assemble and normalize channel morphology and fisheries data collected using different methods by a variety of sources into databases for use in assessing existing conditions, impairment status of waterbodies and to provide baseline information against which data from future monitoring efforts may be compared. In addition, Ms. Beussink's database management skills including the use of ARC/INFO to manage spatial databases also provides RDG with relevant experience.

4.2.15.3 Method of Providing Services & Quality Assurance

Extensive data searches may be conducted to identify and acquire relevant data. Data are evaluated to determine content, purpose, and suitability. Data are then transformed and combined into a single normalized

dataset. Transformation may include unit conversion, development of cross-walk tables, and generalization of more specific data to meet the level of the most general data. Field properties may be edited to provide domain restrictions and to ensure logical consistency. Various operations may also be used to validate the dataset for completeness and logical consistency.

4.2.15.4 Staff Qualifications

Ms. Amy Beussink will coordinate RDG's Electronic Data Technical Assistance service area.

Table 4.5. River Design Group, Inc. Staff Qualifications for Electronic Data /Information Technical Assistance Services Personnel.

EMPLOYEE	*EDUCATION*	*YEARS OF EXPERIENCE*	*SERVICE AREAS-YEARS OF RELATED EXPERIENCE*	*SPECIAL TRAINING*
Amy Beussink	M.S. Watershed Management B.S. Geoscience and Biology	7 years	7 years	- Terrain Anlaysis using DEMs - Digital Image Processing - Wildland Hydrology - NRIS Water Module

Amy Beussink, Hydrologist/GIS Specialist, provides RDG's clients with the unique skills of a GIS specialist with the knowledge of a hydrologist. Amy's broad background enables her to participate in all levels of hydrologic analysis and restoration design. RDG relies on Amy to collect, manage, and analyze watershed data from both remote sensing and on-the-ground perspectives. Her database management expertise allows her to efficiently summarize large datasets and gives RDG a powerful instrument for evaluating complex spatial and temporal data. Prior to joining RDG, Amy was employed by the Lolo National Forest. As a forest hydrologist, she was involved with TMDL development, NEPA assessments, and stream restoration and monitoring projects. Amy has completed the first three courses offered by Mr. David Rosgen of Wildland Hydrology, and has completed advanced training in hydrology, sediment modeling, GIS, and other remote sensing techniques. Amy will be a key technical staff member for the Environmental Services contract.

Ms. Beussink's resume is included in Appendix B. Ms. Beussink satisfies the educational requirements specified for the Electronic Data/Information Technical Assistance Services service area.

4.2.16 Heavy Equipment Operators

RDG has established working relationships with six heavy equipment operators. These operators are experienced in all phases of stream reconstruction including BMPs, equipment requirements, channel construction methods, structure specifications, and finished site preparation. Equipment operator summaries are included below.

Elk Creek Excavating based in Heron, Montana has worked with RDG on six restoration projects primarily in the Lower Clark Fork River Drainage since 1997. John Fitchett and Tyler Rehbein are the primary operators for Elk Creek Excavating. Additional technicians and laborers are hired as necessary to complete projects.

Kirby Excavating based in Hamilton, Montana worked with RDG's principals while they were employed by Water Consulting, Inc. Don and Chance Kirby are two of the more experienced operators engaged in restoration projects in western Montana. Chance Kirby has trained with and completed restoration projects for Mr. Dave Rosgen, founder of Wildland Hydrology. Kirby Excavating has completed over twenty restoration projects in western Montana since 1998.

Riding High Excavation based in Eureka, Montana has recently worked with RDG in the Tobacco River Valley. Owned Tim Ryan, Riding High Excavation has access to a large assortment of heavy equipment and smaller support vehicles. RDG looks forward to continuing to work with Riding High Excavation throughout the Tobacco and Flathead valleys. Riding High has been involved with restoration projects for 2 years.

Rocky Mountain Excavating (RME) based in Whitefish, Montana is currently working with RDG on the Therriault Creek reconstruction. RDG worked with RME on a MFWP-sponsored project in 2003 in the Flathead Valley. RME's owner, Jardy Kyner, is a skilled excavator operator with a deft touch and is knowledgeable of stream processes. RME has been involved with restoration projects for 2 years.

Glacier Excavation and Rock, also based in Whitefish, Montana is currently working with Rocky Mountain Excavating and RDG on the Therriault Creek project. Owner-operator Bob Cuffe is working with RDG on his second restoration project. RDG plans to collaborate with Mr. Cuffe on other restoration projects in the Tobacco and Flathead valleys. Mr. Cuffe has been involved with restoration projects for 2 years.

Aquatic Contracting LLC., based in Portland, Oregon is an experienced heavy equipment contractor with completed projects in Oregon and Washington. Owner Michael Herrick has a degree in fisheries biology and was employed by Oregon Department of Fish and Wildlife prior to founding Aquatic Contracting LLC. His academic background and work experience in the fisheries field make Mr. Herrick a valuable operator especially when improving fish habitat is a restoration project goal. Mr. Herrick has completed over a dozen stream and wetland restoration projects in the Pacific Northwest over the past 5 years.

In summary, RDG has established valuable relationships with its heavy equipment subcontractors. By incorporating the skills of these masterful heavy equipment operators, RDG will be able to provide the highest quality projects to the State. Heavy Equipment Cost Sheets and Location preferences are included in Appendix C.

4.2.17 Revegetation Services

RDG is teaming with two revegetation firms Geum Environmental Consulting (GEC), and Northwest Revegetation and Ecological Restoration, Inc. (NWRER). These firms are headquartered in the Bitterroot Valley, but are involved with projects throughout western Montana and in other states. Additional summary information for these firms is included in the following sections.

Geum Environmental Consulting (Geum) was founded in 2003 in Hamilton, Montana by ecologists and biologists interested in working with the local community to benefit the environment and natural resources. Key employees with Geum have over 20 years combined professional experience working in natural resource disciplines in Montana and the western United States. Services and expertise offered by Geum include:

- Ecological Restoration and Revegetation Planning
- Riparian Restoration Design and Construction Oversight
- Biological Assessments for Endangered Species Act Compliance
- Wetland Restoration and Mitigation Design and Planning
- Riparian and Wetland Assessment
- Wetland Delineation
- Fish Habitat Assessments and Surveys
- Stream and Wetland Permitting
- GIS and Natural Resource Database Application Design and Management, including Web Applications
- Grant Writing

Geum specializes in large-scale, collaborative restoration planning for large watershed areas that involve diverse stakeholders and regulatory entities. Geum's staff has experience implementing all phases of stream and wetland restoration including site characterization, permitting, project design, construction and field crew oversight, and project monitoring. Our primary role as a revegetation specialist subcontractor will be in providing riparian and wetland revegetation expertise for restoration projects, such as the development of

planting plans, construction specifications, and project oversight. IN addition, Geum may provide technical and labor staff, in addition to those included in this statement of qualifications, on a project by project basis if needed.

Northwest Revegetation and Ecological Restoration, Inc. (NWRER) uses innovative planting equipment to efficiently plant large restoration projects. NWRER's equipment not only permits timely planting of a large number of containerized stock and/or cuttings, but also enables the restoration practitioner to plant services that are typically considered to be "unplantable". The patented Expandable Stinger and Rotary Stinger were developed in 1998 and have been used on revegetation projects in Montana, Idaho, Washington, and Oregon. NWRER is teaming with Bitterroot Restoration Inc. to expand its resources. NWRER does not employ a full-time staff, but will coordinate with BRI for project management and scheduling. NWRER has collaborated with RDG on seven revegetation projects and has worked with MFWP on several projects in western Montana.

RDG would prefer to subcontract revegetation planning, designing, and implementation project tasks to these two firms. RDG has cooperative agreements with Geum and NWRER. Resumes and cost sheets are included in Appendix C for Geum. NWRER's cost sheets are also included in Appendix C.

4.2.18 Watershed Coordination

River Design Group will not be responding for the Watershed Coordination service area.

4.2.19 Communication/Educational Services – Information & Education

Although RDG has not prepared documents designed specifically for educational services, RDG's broad expertise in stream restoration, TMDL planning, GIS, and remote sensing make RDG a candidate for assisting the State in implementing the statewide information and education program for designated environmental projects. RDG's principals John Muhlfeld and Troy Brandt prepared a heavy equipment operators workshop for stream restoration sponsored by the Kootenai River Network. This two day course included both classroom presentations and site visits to local restoration projects in the Tobacco Valley near Eureka, Montana.

4.2.19.1 References

RDG's principals have completed one educational workshop. The reference for the project is included below. RDG's project experience in numerous areas make it well qualified for assisting the State with implementing educational programs. Please refer to Section 4.2.1.1 References for a summary of example projects that required skills that RDG would be able to disseminate to other practitioners or the public.

Project Name: Kootenai River Network Operators Workshop

Company:	Water Consulting, Inc.
Client:	Kootenai River Network
	U.S. Fish & Wildlife Service
Project Location:	Eureka, Montana
Project Contact:	Mrs. Carolyn Stamy
Phone:	(406) 293-8754
Completion Date:	2003

Project Description: John Muhlfeld and Troy Brandt prepared PowerPoint presentations and a workshop workbook for the Kootenai River Network Operators Workshop. Approximately 40 participants including local heavy equipment operators, DEQ personnel, USFWS personnel, and MFWP personnel attended the workshop. The workshop included both classroom discussion and field visits to three local stream restoration projects.

Project Staff Members	Project Tasks

John Muhlfeld	Educational Materials Production, Instructor
Troy Brandt	Educational Materials Production, Instructor

4.2.19.2 Company Profile and Experience

Please refer to Section 4.2.4.2 Company Profile and Experience for RDG's profile and experience.

4.2.19.3 Method of Providing Services & Quality Assurance

RDG will use the Kootenai River Network Operators Workshop as the example project for discussing how RDG would work the State to disseminate information to the public.

Mr. Muhlfeld and Mr. Brandt worked closely with KRN and USFWS to determine what information would be the most useful for the workshop participants. We determined that the information needed to be specific enough to relay the importance of understanding stream systems, survey methods, and construction requirements. At the same time, the presented material needed to be general enough in order to cover the vast amount of information that is available for understanding stream restoration theories and techniques.

Mr. Brandt organized the lesson plan for the workshop into broad categories including river corridor processes, the Rosgen Stream Classification System, land use effects on river processes, traditional stabilization treatments, and natural channel design techniques. The information was disseminated via a course workbook and PowerPoint presentations. Mr. Muhlfeld presented the materials.

The second class day included site visits to two recently completed restoration projects and a third project that was in the planning stage. Course participants were introduced to channel stabilization techniques as well as broad discussions on channel stability, land uses, and the importance of riparian vegetation.

Course participants gave positive reviews of the training workshop. RDG has contracted with four of the equipment operators who participated in the workshop.

4.2.19.4 Staff Qualifications

RDG's professionals would participate in Communication/Educational Services – Information & Education projects. RDG's professionals are qualified to disseminate information on a wide range of topics including stream process; restoration planning, design, and construction; engineering techniques; land survey design; AutoCAD, remote sensing, and GIS applications. Please refer to Section 4.2.4.4 Staff Qualifications for the RDG professionals (Muhlfeld, Daniels, Belski, Brandt, Beussink, and Ferree) who will be assigned to participate in the Communication/Educational Services – Information & Education service area. RDG's personnel meet the educational requirements specified for the Communication/Educational Services – Information & Education service area. Personnel and equipment rates are also included in Section 4.2.4.4. Detailed resumes are included in Appendix B.

4.2.20 Communication/Educational Services – Contract Administration

River Design Group will not be responding for the Communication/Educational Services – Contract Administration service area.

4.2.21 Communication/Educational Services – Information Transfer & TMDL Technical Editing

RDG regularly presents information to a variety of audiences ranging from technical presentations to informal workshops attended by local watershed group members. Examples of recent forums where RDG professionals delivered presentations include:

- Montana American Fisheries Society and Continuing Education Session 2004
- Oregon American Fisheries Society 2004
- Montana Water Course Annual Meeting 2004

• NRCS Annual Employee Meeting 2003
• Montana Association of Conservation Districts 2003 Annual Meeting
• Flathead Lakers Watershed Group Annual Meeting 2004
• Prospect Creek, Pilgrim Creek, Haskill Basin, and Grave Creek watershed groups

RDG has also given interviews summarizing recent high profile projects on Haskill Creek (Big Mountain Resort in Whitefish, Montana) and Grave Creek near Eureka, Montana.

RDG is also adept at technical editing of watershed assessment and TMDL documents. RDG recently completed a technical editing project with the Confederated Salish & Kootenai Tribe for a master plan document on restoring the lower 22 miles of the Jocko River.

4.2.21.1 References

RDG's principals regularly participate in public presentations, provide technical editing for resource documents, and review restoration designs. Please refer to Section 4.2.1.1 References for a summary of example projects that required skills that RDG would be able to disseminate to other practitioners or the public.

Please refer to Section 4.2.1.1 References for a summary of example projects that have included dissemination of project results to various public audiences.

4.2.21.2 Company Profile and Experience

Please refer to Section 4.2.4.2 Company Profile and Experience for RDG's profile and relative experience pertinent to the Communication/Educational Services – Information Transfer & TMDL Technical Editing service area.

4.2.21.3 Method of Providing Services & Quality Assurance

Please refer to Section 4.2.4.3 Method of Providing Services & Quality Assurance for RDG's profile and relative experience pertinent to the Communication/Educational Services – Information Transfer & TMDL Technical Editing service area.

4.2.21.4 Staff Qualifications

Please refer to Section 4.2.4.4 Staff Qualifications for the RDG personnel who will be assigned to participate in the Communication/Educational Services – Information Transfer & TMDL Technical Editing service area. RDG's personnel meet the educational requirements specified for the Communication/Educational Services – Information Transfer & TMDL Technical Editing service area. Personnel and equipment rates are also included in Section 4.2.4.4. Detailed resumes are included in Appendix B.

4.2.22 Land Use Planning Services

River Design Group will not be responding for the Land Use Planning Services service area.

4.2.23 Preparation of Technical Manuals or Circulars

RDG has technical expertise in the following areas:
- GIS analysis for natural resources and TMDL development
- Stream classification
- Stream restoration design
- Remote sensing for TMDL development
- Database management for natural resources and TMDL development
- Land survey design
- Engineering techniques for natural channel design projects

4.2.23.1 References

Please refer to Section 4.2.1.1 References for a summary of example projects that exemplify RDG's expertise in a range of project areas.

4.2.23.2 Company Profile and Experience

Please refer to Section 4.2.4.2 Company Profile and Experience for RDG's profile and relative experience regarding RDG personnel's technical skills.

4.2.23.3 Method of Providing Services & Quality Assurance

Please refer to Section 4.2.4.3 Method of Providing Services & Quality Assurance for an example of RDG's project schedule and completion methods.

4.2.23.4 Staff Qualifications

Please refer to Section 4.2.4.4 Staff Qualifications for the RDG personnel who will be assigned to participate in the Preparation of Technical Manuals or Circulars service area. Personnel who would be assigned to this service area include John Muhlfeld, Matt Daniels, Andy Belski, Troy Brandt, Amy Beussink, and Jonathan Ferree. RDG's personnel meet the educational requirements specified for the Preparation of Technical Manuals or Circulars service area. Personnel and equipment rates are also included in Section 4.2.4.4. Detailed resumes are included in Appendix B.